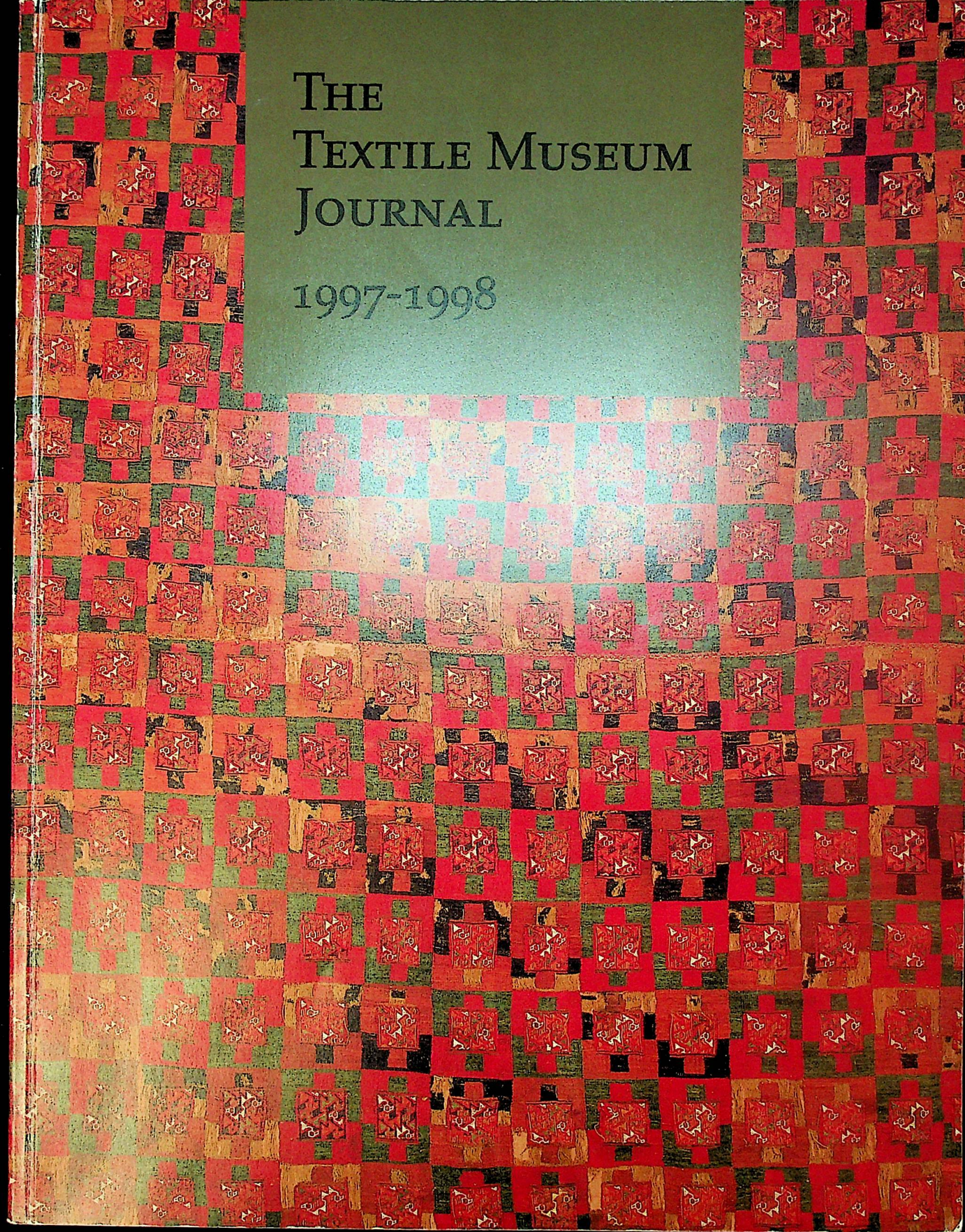


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Front and back covers:

Man's poncho (detail, warp direction vertical), south highland Peru, Chuquibamba style, c. 1100-1500. Interlocked tapestry weave with complementary-weft patterning, camelid fiber (warp 178cm, weft 239cm). The Textile Museum 91.75. Acquired by George Hewitt Myers in 1930. See Mary Frame, Chuquibamba: A Highland Textile Style, p. 3, fig. 3.

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Fig. 1. Map of southern Peru. Many Chuquibamba sites are in the middle and upper reaches of coastal valleys northwest of Arequipa, but textiles are known only from drier areas closer to the coast.



Fig. 2. Fragment of a Chuquibamba textile, probably from the same garment as that used by Kroeber to identify the Chuquibamba style in textiles. Eight-pointed stars, woven in interlocked tapestry, alternate with complementary weft-patterned figures of birds and serrated diagonals. 30 (warp) x 25 cm. Museo Arqueológico José María Morante de la Universidad Nacional de San Agustín, Arequipa, without number.



Chuquibamba: A Highland Textile Style

Mary Frame

The ancient textiles of Peru, fragile records of the past, are preserved best in desert burials along the coast. Although stone architecture and ceramics made by people living in higher and moister areas survive, the corresponding textiles are not found in association with the more durable records. The Chuquibamba style, centered in the valleys northwest of Arequipa, has been known primarily through ceramic and architectural remains. The modern town of Chuquibamba (fig. 1) and the group of sites in its vicinity are located at an altitude of 2900 meters, well above the normal range for textile preservation. Cloth, however, is eminently portable, and Chuquibamba textiles have survived in substantial numbers in drier locales closer to the coast.

This study reunites Chuquibamba textiles from many collections to present an overview of the style with a gender classification of the abundant array of garments. The manner in which clothing was woven and worn, indicated by technical features, illustrates the highland character of the style. The broader subject of textile codifications is explored through an analysis of the patterning systems embedded in these colorful textiles.

The identification of the Chuquibamba style in textiles, first made by Kroeber, was based upon stylistic similarities to ceramics. Drawing on the work of Arequipa archaeologists, Kroeber published a range of pottery from the Chuquibamba area and a single textile fragment (fig. 2). He associated the textile fragment with the pottery style of the region on the basis of a shared star motif.¹ In 1992 Ann Rowe cited and illustrated a number of related textiles² and, although she refrained from naming the style, she clarified the distinction between this textile style (fig. 3) and the provincial Inca style, where the same motifs occur on tapestry tunics with Inca proportions.

The present sample of Chuquibamba textiles contains an array of distinct garment types. The

differences in size, shape, design, and finishes among the textiles indicate that garments for men and women are present. The cohesion of the sample is based on technical grounds, as well as stylistic similarity. Two weaves, one quite specialized, are used; the treatment of selvages indicates they were woven on the same type of loom. The sample is now large enough to describe the garments, imagery, color patterns, and design fields typical of the style. The exceptionally large size of some garments, the vivid color, the consistency of patterns and weaves, and the number of surviving textiles suggest that Chuquibamba was a major local style.

Chuquibamba textiles have been published many times, but are often misattributed, either in whole or in part.³ The better attributions refer to them geographically as "far south coast," or descriptively as the "eight-pointed star" style. The Chuquibamba style is both more and less than the eight-pointed star style. Not all textiles with this easily recognized motif belong to the style,⁴ and many Chuquibamba textiles do not contain the star (fig. 3). The geographic attribution of far south coast is partially correct and

Fig. 3. A complete poncho in the Chuquibamba style. The west-faced garment was woven in one piece on a large loom in the orientation shown. The horizontal neckslit in the center would probably have been vertical when worn. 178 (warp) x 239 cm. The Textile Museum 91.75.

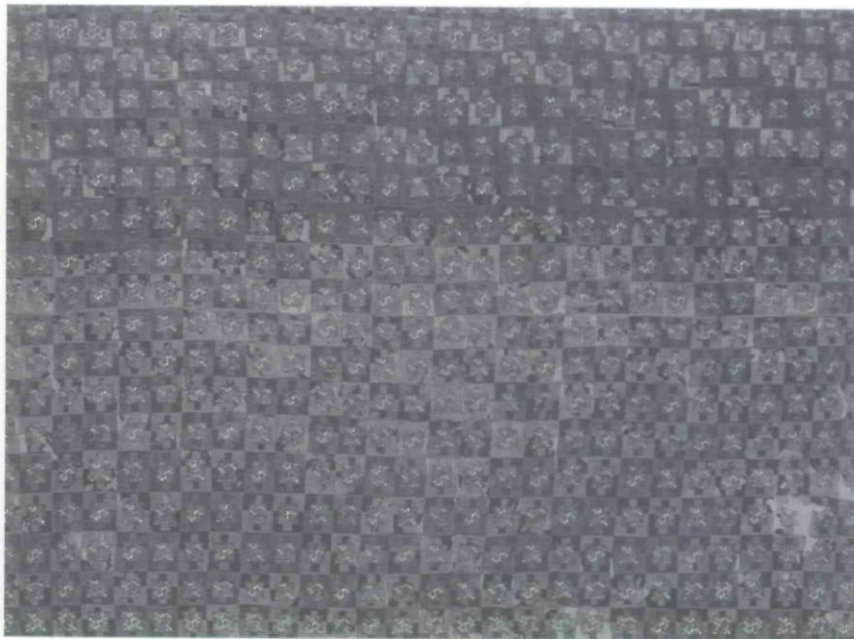


Fig. 4. View of the Rio Grande Valley below Chuquibamba looking toward the Majes River. The valley above widens out and is encircled by steep ridges.



Fig. 5. Vicuñas, as well as alpacas and llamas, forage on the grasslands above Chuquibamba, in the shadow of Mount Coropuna. Chuquibamba textiles, made entirely of yarns spun from camelid fiber, belong to a highland tradition.

refers to the arid areas where Chuquibamba textiles have survived in greatest numbers. The majority of Chuquibamba textiles, now entirely gone from the archaeological record, may have been made and used in the middle and upper reaches of valleys which ascend to the highlands, above the altitude at which textiles are preserved. Chuquibamba textiles are often dated to the Inca period, A.D. 1470-1532. While Chuquibamba textiles overlap with the Inca period, the style predates it as well. In the centuries between Huari and Inca presence in this region, local styles such as that of Chuquibamba existed independently, before the territories became provinces in the Inca empire.

Chuquibamba Pottery

Chuquibamba, located 240 kilometers northwest of Arequipa on the Rio Grande, is encircled by ridges that rise abruptly on all sides except the southeast, where the Rio Grande slopes away toward the Majes River and ultimately the coast at Camaná (fig. 4). Its locale, in a sheltered bowl of agricultural fields and terraces, is an intermediate one, oriented toward the coast, yet with ready access to the high plateau, or *puna*, which is 900 meters above Chuquibamba. The summit of majestic Mount Coropuna (elevation 6425 m) comes into view as one ascends the ridge above Chuquibamba (fig. 5).

Sites with Chuquibamba pottery or architecture are clustered around Chuquibamba and in the Ocoña, Majes-Camaná, and Sigvas drainages, as well as further afield in the Caravelí and Colca Valleys. In addition to sites in the upper reaches of valleys, Chuquibamba pottery is reported from sites in the middle and lower parts of some valleys.⁵ Chuquibamba textiles have been reported from the first three valleys but only from lower altitude sites closer to the coast.⁶ A single textile from near Mollendo, on the coast southwest of Arequipa, is the southernmost

example. Chuquibamba textiles have also been reported from valleys to the north, such as Yauca, Acarí, and even Nasca and Ica;⁷ but Chuquibamba ceramics have not been reported from the distant valleys of Nasca and Ica, which suggests that the textiles were traded.

The Chuquibamba pottery style was a local highland style that began in the period of regional states (1100-1470) and continued during the Inca empire (1470-1532).⁸ Its antecedents lie in a Huari-influenced style; motifs, such as the eight-pointed star, continued in use on pottery throughout the timespan. Chuquibamba pottery is typically dark red with black linear patterns; an earlier polychrome style also exists. Common forms include gourd-shaped bowls, vases, and the distinctive, heart-shaped jar called a *cantimplora* (fig. 6). The fine line figures include birds, camelids, eight-pointed stars, and hatched and angular designs, sometimes enclosed within squares. Chuquibamba textiles exhibit these same figures, as well as others: interlocking figures of birds, snakes, and fish are commonly enclosed in small squares (fig. 7), as are stars and, occasionally, felines, camelids, or frogs. In its last phase, Chuquibamba pottery shows marked Inca influence in vessel forms (Kroeber 1944, pl. 8a). Chuquibamba motifs also occur on Inca-style garments, such as tapestry tunics. This provincial Inca style, first described by Rowe



Fig. 6. Chuquibamba ceramics, such as this *cantimplora*, are generally red-slipped and decorated with black linear patterns. The patterns are sometimes enclosed in square outlines, as they are on Chuquibamba textiles. Instituto Nacional de Cultura, Camaná, without number.

(1992, pp. 36-40), might properly be called the Chuquibamba-Inca style.

The dating of Chuquibamba ceramics is not finely tuned-and that of the textiles even less so. There is evidence that the Chuquibamba sphere of influence was expanding during the Inca period, to the valleys of Acari (Menzel 1967, p. 229) and Colca (Malpass and de la Vera Cruz 1990, pp. 54-57). It is likely that Chuquibamba textiles continued to be made at the same time as Chuquibamba-Inca textiles, to judge from practices in other areas conquered by the Inca. The existence of garment types and techniques distinct from Inca types indicates a fully developed local style that must have predated conquest by the Inca. How early the Chuquibamba textile style developed remains an unanswered question that cannot be addressed by means of the unassociated sample of textiles currently available.

Chuquibamba Textiles: A Highland Tradition

The textiles of the Chuquibamba style, like the pottery, show strong connections to the highlands. Most are made entirely of camelid fiber, probably alpaca, indicating a ready source of fiber from the herders of the puna. Warp and weft yarns, spun in Z direction, then doubled by plying in S direction, are consistent with general practice in both the southern highlands and the adjacent coast. Chuquibamba textiles thus far identified are weft-faced. Tapestry is one of the weaves used in Chuquibamba textiles, and adjacent color areas are generally joined by a single interlocking of weft yarns. This type of join is characteristic of the known highland tapestry traditions (Recuay, Huari, Tiahuanaco, and Inca), whereas slit tapestry is more common on the coast, for example, in Chimu and Chancay textiles. The vertical loom is particularly suited to the weaving of interlocked tapestry, a structure favored for high status clothing in the highlands.

Fig. 8. Detail of the selvages in a poncho. The lower edge is the initial warp selvage, where weaving began. It has warp loops and two heading cords, followed by a thin band where warps are woven in pairs. The side selvage has two thicker warps to reinforce the edges of the textile. They are completely revealed in the photo because of the deterioration of the dark wefts in this area. The reinforcing warps are a feature found on weft-faced textiles woven on the vertical loom. Overall dimensions, 178 (warp) x 239 cm. The Textile Museum 91.75.



Fig. 7. Detail of a Chuquibamba poncho. Figures with snake and bird attributes, woven in a complementary-weft weave, are enclosed in squares and surrounded by a tapestry background. The background is composed of horizontally divided rectangles in four alternating colors. Square tapestry tabs are woven above and below the figured squares. Overall dimensions, 181.5 x 240.5 cm. Photo courtesy of the Museo de Arte de Lima, Gift of Sr. Jaime Valentin Coquis, 2.1-84-IV.

The other weave structure, used for the figured squares (fig. 7), is a complementary-weft weave with color substitution. It is linked to adjoining areas by dovetailing weft yarns (sometimes with interlocking as well) around a common warp yarn. The complementary-weft weave has a definite right and wrong side, with the wrong side having underfloats and turn-backs of the substituting colors that form the interior of figures.

The four finished edges of the fabrics hold clues to the loom and the process of making the cloth. The edges where the weaving began and terminated, called the warp selvages, differ from one another. The initial warp selvage has warp loops and heading cords, followed by a



narrow band of weaving on paired warp yarns (fig. 8). Heading cords are spun and plied like the warp, but are then doubled with a final re-plying twist in Z direction. The terminal warp selvage also has a narrow band of weaving on paired warp yarns, followed by cut warp ends. Some warp yarns are darned back into the fabric, giving a finished appearance to the edge; others are cut flush with the edge. Although warps at the terminal selvage are cut, the fabrics were likely woven on a continuous warp, with warp loops and heading cords lashed against loom bars at both ends. Huari tapestry tunics, which were probably woven with continuous warps on vertical looms, also have cut warps at the terminal selvages of each loom width.⁹

The two side edges, called weft selvages, are reinforced by two thicker warp yarns (fig. 8), made by re-plying four or more plied yarns together, with a final twist in Z direction. The reinforcing warp yarns are indications that the loom used to make Chuquibamba textiles was probably a fixed-tension vertical loom. Similar warp yarns also occur on the weft selvages of Huari and Inca tunics. The reinforcing warp yarns serve to firm the edges and keep them parallel while weaving wide fabric. The great width of some Chuquibamba fabrics, the treatment of selvages, the use of weft-faced weaves, and the single interlocking of weft yarns in tapestry are indications that a vertical loom was used to weave them.

Fig. 9. The vertical loom is still used in the village of Pampamarca, near Cotahuasi. Although it is used for weaving fabrics with cut pile today, the loom has the features required for producing Chuquibamba fabrics of different sizes.

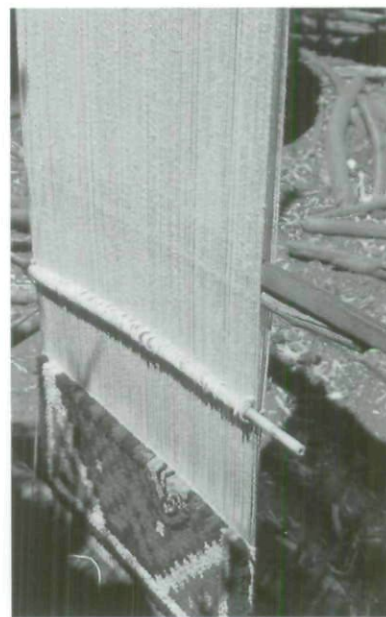
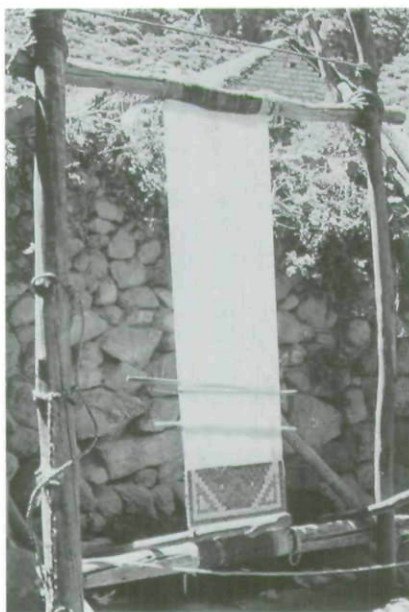


Fig. 10. View of the Pampamarca loom from the wall side where the weaver sits. The heddle bar, used to open the shed between alternate warps, is on this side of the loom.



Fig. 11. Photograph of a vertical loom taken in Cotahuasi on the 1911 Yale expedition led by Hiram Bingham. This posed photograph shows a man on a raised bench pretending to weave a large pile rug from the side of the loom facing the photographer. The position of the heddle bar indicates that the weaving was done from a bench on the other side of the loom, where another man (barely visible) is seated. Reproduction courtesy of the Peabody Museum of Natural History, Yale University. Photograph provided by the Museum of Fine Arts, Boston.

The Andean vertical loom is not as well-known as the body-tensioned backstrap loom and the staked-out horizontal loom. It was probably widely used in the highlands for weft-faced weaving before the Spanish Conquest.¹⁰ The vertical loom is still used today in the Cotahuasi area, north of Chuquibamba in the adjacent drainage of the Ocoña Valley.

In the village of Pampamarca, a four-hour horseback ride above Cotahuasi, I encountered one loom with a partially woven runner in September 1996 (fig. 9). Other weavers, who were between commissions, had their loom posts and crossbars set to the side in patios. In Pampamarca, the loom is used to weave rugs, cushions, runners, saddle blankets, bedcovers, and other household items in a cut pile technique. Pile yarns are wrapped around pairs of warp yarns to form an asymmetrical knot. The pile yarn is cut with scissors, and two or more rows of plain weave secure each pile row. The loom is assembled anew for each textile with upright posts and cross beams lashed together to take the specific size of any fabric. The cut pile technique used today is a post-conquest technique, but the loom is clearly indigenous.

James Vreeland, who stayed in Pampamarca for several weeks in the mid-1970s, recorded the entire process of winding a warp, mounting it on the cross beams, weaving, and finishing off the textile (1979, pp. 189-93). The appearance of the warp and weft selvages on the Chuquibamba textiles I have been studying suggests that a similar procedure was probably used for mounting the warp and finishing off the textile. Although the Pampamarca loom is used to weave a different type of textile today, it has the attributes suited to make the large and small Chuquibamba textiles in this study.¹¹

The loom is set-up a short distance in front of a sturdy wall. After the warp is wound and mounted on the beams, the upper warp-beam is lashed to forked upright posts set in the earth of the patio. Braces, wedged into the wall and resting on the lower cross beam, keep the warps taut and stabilize the uprights. The weaver sits between the loom and the wall with the heddle bar for opening the warps facing the weaver (fig. 10).

In a Cotahuasi photograph taken earlier in this century on Hiram Bingham's expedition, one weaver poses on the outer side of the vertical loom for the photograph (fig. 11). The position of the heddle bar on the wall side of the loom indicates the rug was being woven from

that side where another weaver (barely visible) is seated. The posed photograph, although misleading, does illustrate that huge textiles were woven fully extended and that the benches were moved upward as weaving progressed. It also shows that the positioning and bracing system of the vertical loom includes benches on both sides, giving the theoretical possibility of weaving from either side. Certain types of Chuquibamba textiles exploited the possibility of weaving from both sides of the vertical loom. These huge cloths change from the right to the wrong side of the weave along straight boundaries, a change that may be accomplished by weaving from the other side of the loom. The change from right to wrong side is a woven-in indication that some garments were worn folded, with two layers of fabric covering the body.

Chuquibamba garment types, as well as the loom on which they were woven, belong to highland traditions. The folded garments, to be discussed in the section on shawls and dresses, show significant similarities to some Inca garments. The orientation and manner in which the Chuquibamba shawls and dresses were worn fit with traditions of the southern highlands rather than with coastal traditions. The Chuquibamba men's garments were worn with warps horizontal in orientation, similar to other highland styles. The Chuquibamba style is clearly a highland style, although surviving textiles may have a coastal provenience.

Design Format

The Chuquibamba style in textiles is distinctive. When a large piece is viewed from a distance (fig. 3), it is strongly geometric and repetitious. Close-up, it is figurative and repetitious. Orderly repetitions in spatial divisions, color schemes, and figures characterize the style. Whether large or small, Chuquibamba textiles divide space in distinctive and regular ways for the repetition of figured squares. The squares, with complementary weft-patterned figures or tapestry stars inside, sometimes have a squarish tab above and below and a tapestry background (fig. 7).

The figured squares repeat in eight different formats in the current sample (fig. 12a-h). The background surrounding the weft-patterned squares with tabs is often divided into bicolored rectangles woven in tapestry. These horizontally divided rectangles repeat in straight (figs. 12a, 3,

Fig. 12. Variations in the design format of Chuquibamba textiles, shown in the orientation in which they were woven on the loom. Weft-patterned squares with tabs are repeated on a gridded tapestry background in straight alignment (a) and in alternate alignment (b), or on a plain background in alternate alignment (c). Tapestry-woven stars, enclosed in squares, are repeated in alternate alignment on a weft-patterned background of birds (d). Semi-compact formats (e-g) reduce the background space to small areas around the tabs. Figured squares, tapestry and weft-patterned, are repeated in straight alignment (h). Eight-pointed stars, woven in tapestry, occur in all variations, but most consistently with those shown. The first design format (a) is the most common.

7) or alternate (fig. 12b) alignment. Textiles with an ungridded background repeat figured squares in alternate alignment, either against a plain color (fig. 12c) or a background filled with weft-patterned motifs such as birds (figs. 12d, 13).

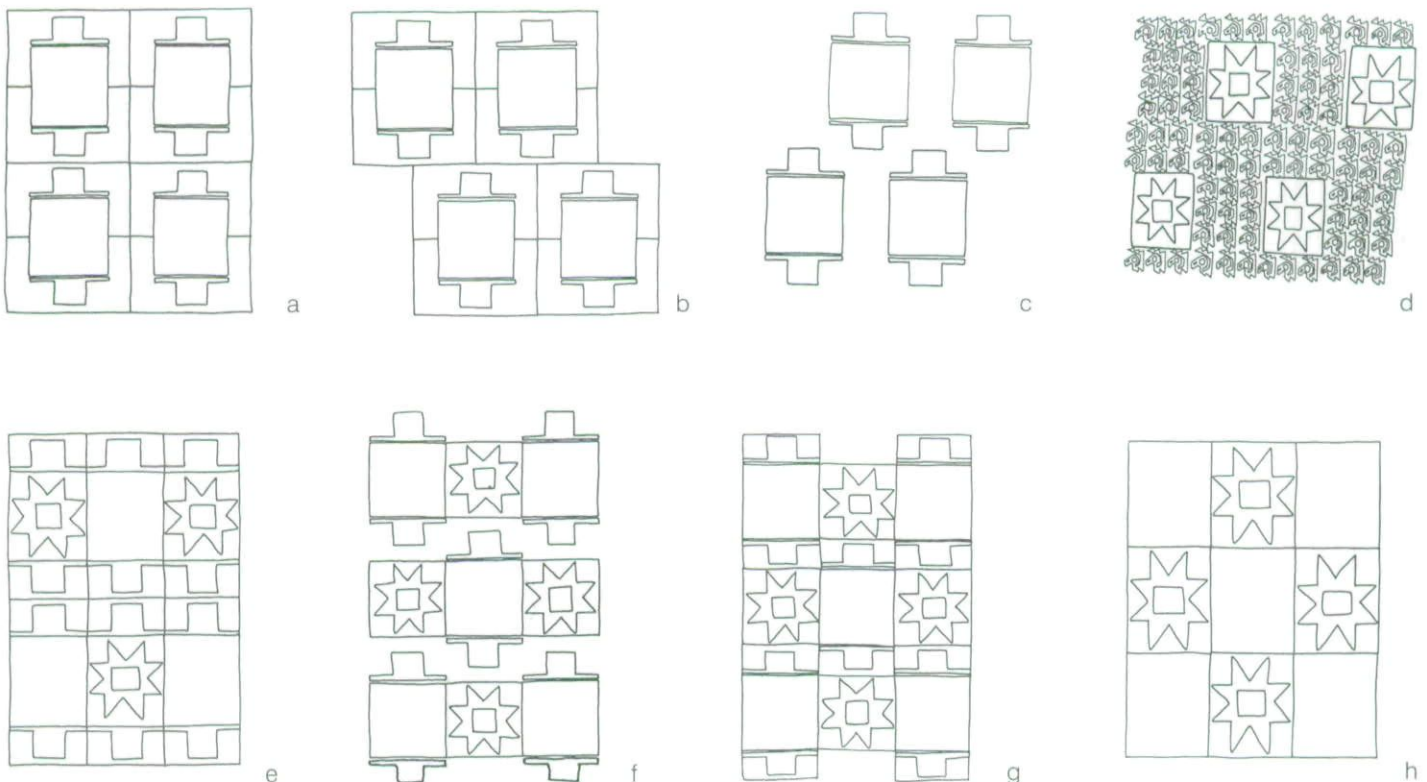
Other design variants reduce the tapestry background laterally, abutting the weft-patterned squares along the sides of adjacent squares. These semicompact formats often alternate the eight-pointed star with weft-patterned squares. Although the background is now only small areas above and below the figured squares with tabs, the background space is sometimes divided into rectangles in straight alignment (fig. 12e). The background field can also be monochrome (figs. 12f, 14), but the alternating star motifs are repeated without tabs while the weft-patterned squares retain the tabs. A subtle variant (12g) combines features of the previous two variants: star motifs without tabs are alternated with weft-patterned squares with tabs, but the background above and below the latter is gridded. Although these semi-compact formats reduce the background space in varying amounts (fig. 12e-g), it does remain part of the design field and can carry a regular color scheme.

The background space and the tabs are omitted in the final variant where weft-patterned squares alternate with tapestry stars in a compact format, abutting on all sides (fig. 12h). The design fields in most Chuquibamba textiles are emphatically divided, either by the boundaries of changing background colors in visible grids or by the disposition of the figured squares according to an invisible diamond-shaped lattice.

A few Chuquibamba textiles organize space in bands, rather than grids. The bands are often organized in reflectively symmetrical groupings on either side of a central band. In these textiles, weft-patterned bands or tapestry bands alternate with plain colored bands in regular series. A few large textiles divide the design field into wide bands or zones organized by reflective symmetry, and then repeat figured squares in grids or lattices within zones.

Color

The textiles of the Chuquibamba style are colored in a circumscribed range of strong hues. Typically, four colors make up the scheme, usually red, green, dark orange, and dark blue.



The dark blue dominates visually, while the red and orange tend to merge into a single hue when seen at a distance. These colors alternate in the tapestry background of horizontally divided rectangles of many textiles (figs. 15c, 3, 7). A single background color is also quite common (fig. 14). It can be red, green, yellow or, rarely, blue. An alternating color scheme is often carried in the colors of the tapestry tabs woven above and below the figured squares, when the background is a single color. Less usual are background color schemes based on two, three, five, or six colors (fig. 15a-b, e-f). Yellow is usually included in the two- and three-color schemes, and white or white and brown in the five- and six-color schemes. Color schemes of a specific number can look quite different when imposed on the different design formats (fig. 12a-h).

Basic to all multicolor schemes is a maximum contrast in hue and value in rectangles that share a side or end boundary. The same color can, and often does, touch at the corner, and this leads the eye along diagonals. When a very light or dark color links diagonally, the eye scans and "solves" the pattern rapidly. Continuous diagonal movements dominate visually in many textiles (figs. 3, 15c, e). In other examples, the dominant visual effect is discontinuous (figs. 16, 15b, f). Pairs of U-shaped background spaces link together, giving the visual impression of S- or Z-shaped units, which repeat regularly on horizontals, but without touching. There is an orderliness and predictability to the variations in color patterns, which suggests an underlying systematization involving number, color, and direction (S or Z). The systematization will be discussed further below.

A significant number of textiles about the figured squares in one or both directions. Most of these alternate the eight-pointed star with the weft-patterned squares. A regular color scheme often operates in the diagonal repetitions of the stars. The most common is a four-color scheme, organized on two bicolor diagonals (figs. 2, 15d). In the semicompact design formats (fig. 12e, g), different color schemes can be carried in the stars and in the background space (figs. 17, 15a). The tunic illustrated in figure 17, for example, has a three-color scheme for the stars (on both diagonals) and a two-color scheme for the background and the tabs.

In summary, color schemes can be carried in the background grids, in the tapestry tabs



Fig. 13. A Chuquibamba loincloth with the design format illustrated in figure 12d. Tapestry squares with eight-pointed stars repeat in alternate alignment against a background of weft-patterned birds. The dimensions and the ties attached to the long edges are typical of loincloths. 91 (warp) x 57 cm. Museo Banco Central de Reserva del Perú, Lima 3545.



Fig. 14. Fragment of a Chuquibamba shawl illustrating the semi-compact design format in figure 12f. Figured squares about laterally and are set against a plain background of a single color. The dark tapestry band with felines, separating zones with backgrounds of different colors, is typical of shawls. 57 (warp) x 64 cm. Museo Regional de Ica DB 01.

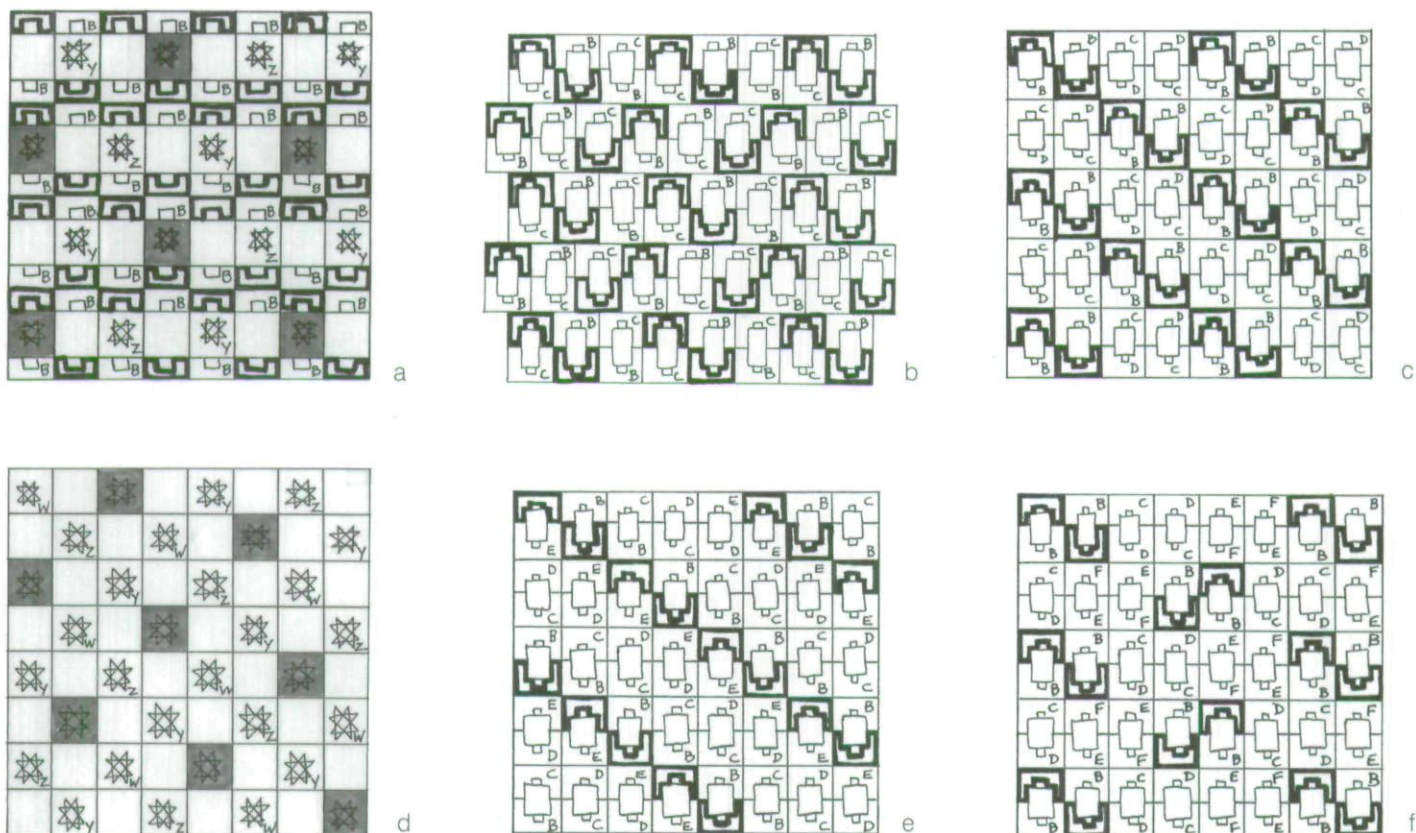
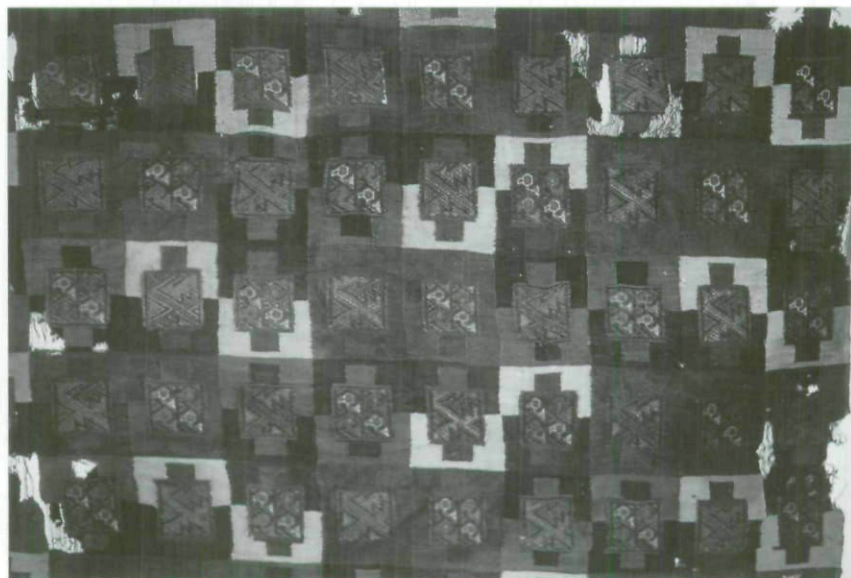


Fig. 15. A sample of the color schemes in the tapestry background or in tapestry stars of Chuquibamba textiles. The color of highest contrast is shown shaded to approximate the visual effect. All variants are shown in the loom orientation, with warps vertical.

- a) two-color scheme (background); three-color scheme (stars) b) three-color scheme (background) c) four-color scheme (background)
- d) four-color scheme (stars) e) five-color scheme (background) f) six-color scheme (background)

Fig. 16. Detail of a poncho with one type of six-color scheme (fig. 15f). S- and Z-shaped units repeat regularly in alternate horizontal rows. Overall dimensions, 148.5 x 226 cm. American Museum of Natural History, New York 41.2/850.



above and below figured squares, and in the tapestry-woven stars. Small-scale color schemes are carried in the repeating figures within individual weft-patterned squares, usually based on three colors. The large-scale color schemes in the current sample use from one to six colors, with a four-color scheme being the most common. Some broken or irregular color repetitions also occur (fig. 13).

Imagery

Contrapuntal systems of repetition, in large and small scale, overlay one another in Chuquibamba textiles. The small weft-patterned figures, inset in squares, introduce another overlay. Two types of figures, set within squares, may roughly alternate over the entire field, setting up a pattern that runs counter to the color scheme (fig. 16, for example). A single figure, or as many as eight different figures can be arranged in regular, semiregular, or utterly broken repetitions. The majority of textiles repeat either one or two weft-patterned figures with regularity, or a variable number in no apparent order.

Many weft-patterned figures inset in squares have animal attributes and include five bird variants (fig. 18a-b, e-g), two snake variants, one with ears (fig. 18c, h), and fish (fig. 18i). Others are geometric, such as the diagonal (fig. 18d) and the zigzag (fig. 18j). Another bird variant, with two heads (fig. 18l), occurs in bands. The small-tailed bird (fig. 18g) has several subvariants, based on differences in the orientation of figures (left-right and up-down) by rows. The weft-patterned figures that occur in squares also occur in bands, although occasionally they are not immediately recognizable. The small fragment of the eared snake figure in a square (fig. 18h) has a different look when expanded into a band pattern (fig. 18m-n).

The dominant tapestry figure, which alternates with weft-patterned figures on many textiles, is the eight-pointed star (fig. 19a). Rarely, a tapestry feline, frog, or camelid (fig. 19b-e) is introduced into the field. Yellow tapestry felines (fig. 19f) more commonly repeat within the dark blue bands of shawls, where they form a striking procession that would have been worn around the shoulders (fig. 20). Very occasionally, another tapestry figure such as a tadpole or a checkerboard (fig. 19g-h) occurs in a band.

The weft-patterned figures are themselves infinite patterns and are often truncated, or allowed to "run off" the edge of the inset square.

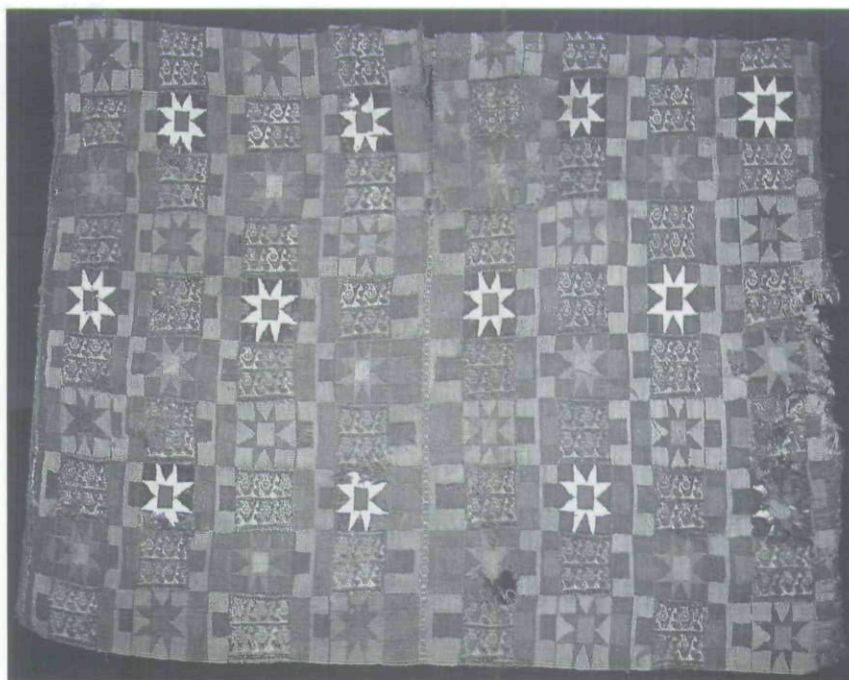
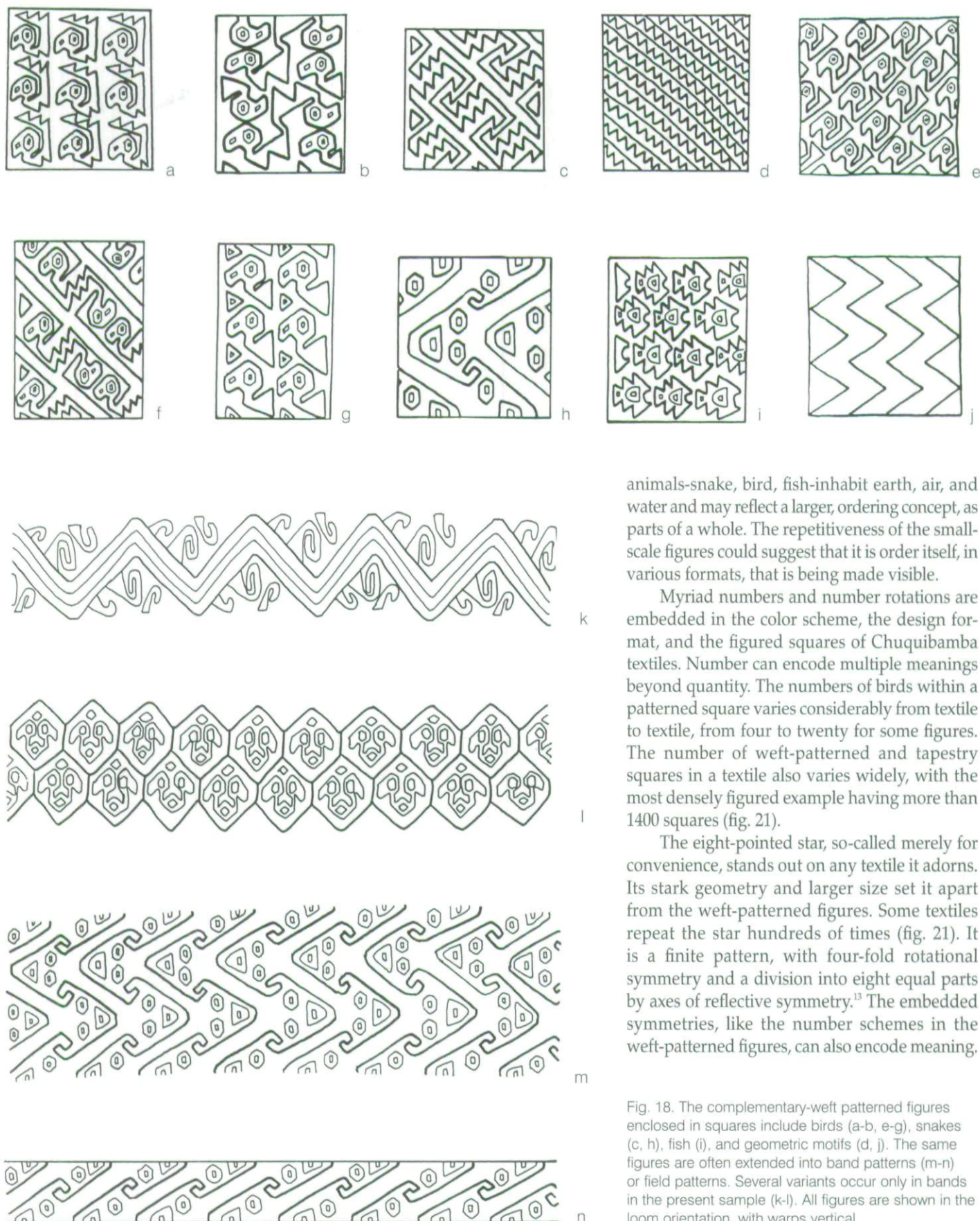


Fig. 17. A constructed tunic with side seams and vertical neckslit. A two-color scheme operates in the background and a three-color scheme operates in the stars. The tunic is shown in the orientation in which it was worn, at right angles to its orientation on the loom, and to the corresponding color-scheme diagram (fig. 15a). 68 (folded) x 84 (warp) cm. Museo de la Nación, Lima C.MN-114 4014.

Such patterns can be extended infinitely, without change, based on the symmetrical information contained in a small part of the square. These extended patterns sometimes fill bands, borders, or even background space (fig. 13). Each of the weft-patterned squares (fig. 18a-j) has a regular design format. The tiny figures inside a square conform to invisible lattices and repeat through symmetrical motions.¹² The patterns underlying the repetition of small figures are organized in ways similar to the structures of cloth and cords (see below).

The repertory of weft-patterned images is limited, and consists mainly of birds. Most have large thick bills; the variation in length and angle of the tail and size of the body suggests that different species might be represented. Variations may also refer to immature and mature life stages, as in the tapestry depictions of tadpole and frog. Life stages are marked in various ways in the Andes, often in cloth. Children in Candelaria, Bolivia, for instance, wear a crocheted hat with a tail, which is called a tadpole, in direct reference to their immature status.

Significance may also lie in the relationship between the weft-patterned figures. The triad of



animals-snake, bird, fish-inhabit earth, air, and water and may reflect a larger, ordering concept, as parts of a whole. The repetitiveness of the small-scale figures could suggest that it is order itself, in various formats, that is being made visible.

Myriad numbers and number rotations are embedded in the color scheme, the design format, and the figured squares of Chuquibamba textiles. Number can encode multiple meanings beyond quantity. The numbers of birds within a patterned square varies considerably from textile to textile, from four to twenty for some figures. The number of weft-patterned and tapestry squares in a textile also varies widely, with the most densely figured example having more than 1400 squares (fig. 21).

The eight-pointed star, so-called merely for convenience, stands out on any textile it adorns. Its stark geometry and larger size set it apart from the weft-patterned figures. Some textiles repeat the star hundreds of times (fig. 21). It is a finite pattern, with four-fold rotational symmetry and a division into eight equal parts by axes of reflective symmetry.¹³ The embedded symmetries, like the number schemes in the weft-patterned figures, can also encode meaning.

Fig. 18. The complementary-weft patterned figures enclosed in squares include birds (a-b, e-g), snakes (c, h), fish (i), and geometric motifs (d, j). The same figures are often extended into band patterns (m-n) or field patterns. Several variants occur only in bands in the present sample (k-l). All figures are shown in the loom orientation, with warps vertical.

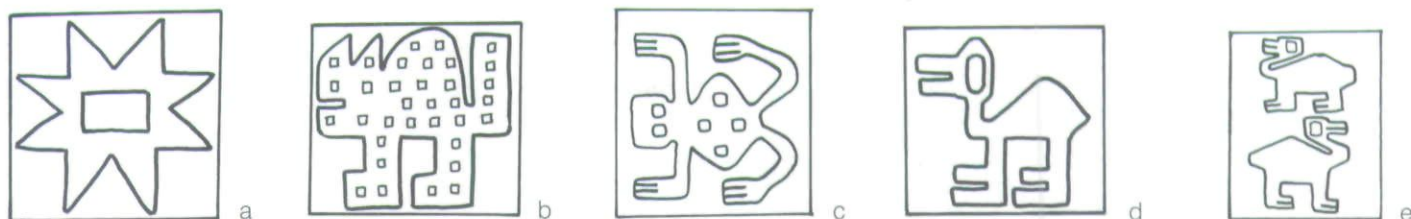
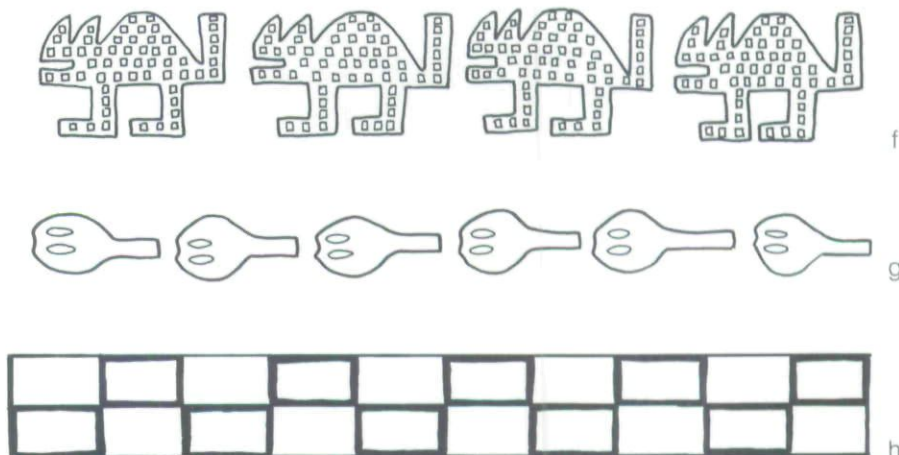


Fig. 19. Tapestry motifs enclosed in squares are usually eight-pointed stars (a); felines (b), frogs (c), or camelids (d-e) occur rarely. Tapestry felines more often repeat in bands (f), like those on the shawl fragment in figures 14 and 20. Checkerboard motifs (h) and especially tadpoles (g) are rarer band patterns.



Men's Garments

The preceding sections on imagery, color, and design have described Chuquibamba textiles largely from the viewpoint of the textiles as they were being woven, stretched flat on the vertical loom, like canvases. However, the fabrics, which come in different shapes and sizes, were made to be worn on the human body. A variety of garment types, enough to clothe men and women, can be distinguished. Clusters of recurrent features, including size, zones, borders, bands, apertures, ties, fold-lines, edgings, and seams, provide clues as to how and by whom the clothes were worn.

Ponchos and Tunics

Torso-covering garments for men are the most readily identified garment in any style, based on the presence of a neckslit. They are also the most numerous garment type in the Chuquibamba sample.¹⁴ Fifteen of the seventeen examples included in this study do not have side seams, nor could I detect any trace of seams (yarn fragments, needle holes, distortion or wear at the base of suspected arm openings) in the nine of fifteen unseamed garments that I was able to study in person. It appears that the major type of torso-covering garment was a capacious poncho with a vertical neckslit.¹⁵ These ponchos



Fig. 20. Fragment of a shawl showing many of the weft-patterned figures (fig. 18b, d, f-g, j) and tapestry figures (fig. 19a, d, f). 119 (warp) x 117 cm. Private collection, New York.



Fig. 21. A poncho with more than 1400 figured squares is shown flat, in the orientation in which it was worn, with the neckslit vertical. A four-color scheme, arranged in two bicolored diagonals, is carried in the tapestry stars (fig. 15d). 231.3 x 161.1 (warp) cm. Photo courtesy of the Art Institute of Chicago 1955.1766.

are very wide and may have been worn belted or with the edges folded inward, toward the shoulders. Many of the ponchos are in relatively good condition and may have also been used as an outer covering on a mummy bundle.

A small number of complete and fragmentary examples have original side seams (fig. 17), indicating that at least a few garments with neckslits are tunics and confirming that the neckslits in these examples were vertical when worn.

One complete poncho is illustrated in the orientation in which it was woven on the loom (fig. 3); one is illustrated in the orientation in which it was likely worn, at right angles (figs. 21, 22). The rectangle, generally about 180 cm (warp) by 235 cm,¹⁶ was woven flat as a single width, and the neckslit was cunningly inserted into the woven cloth after it was finished. The horizontal opening for the head was prepared by reinforcing both sides of a central band with a darning thread inserted into the warp channels to a depth of two centimeters (fig. 23). The warp yarns were then cut for a neckslit while the darned-in thread prevented fraying and gave the appearance of a finished edge.¹⁷

Aside from narrow monochrome bands on the initial and terminal edges, the overall design of the poncho is interrupted only once. A narrow patterned band spans the center of the fabric and appears to imitate an embellished seam. The band, often patterned with bird motifs or triangles, has a monochrome section in the middle that becomes the reinforced edges of the neckslit. This curious example of mimicking a seam suggests that a distant antecedent might have been woven in two separate pieces that were then sewn together with an embellished central seam. Huari tunics, for instance, are made from two fabrics sewn together, while the later Inca tunics are fashioned from a single loom width.

An outstanding example of a large tunic with intact side seams has been preserved in Japan (fig. 24). The seams are densely worked in a flat, figure-eight stitch, then embellished with contrasting thread to outline a diamond pattern (fig. 25). This tunic also has decorative edgings in cross-knit loop stitch at the neck and armholes and reinforcements at the base of apertures, embroidered in double running stitch. These embellished reinforcements are unusual features in Chuquibamba tunics.¹⁸ A single fragment in the sample has an embellished seam comparable to the seam on the illustrated tunic; another tunic fragment has an overcast seam.¹⁹ The unusual seams, reinforcements, and embellishments on

this example (figs. 24, 25) may signal influence from another style. Some trapezoid-shaped tunics, from the cemetery at Chiribaya Baja in the lower Osmore drainage to the south, have decorative edgings along the neck opening, reinforcements at the base of the neck aperture, and embellished side seams that are technically similar.²⁰

A unique feature in this tunic is the variable widths of registers. The bands at the vertical center are distinctly wider than those at the edges. Whether this is purposeful, like the distortion in Huari tunics (Sawyer 1963), or whether it is an anomaly arising out of a weaver's miscalculation is impossible to know.

A smaller, but complete, tunic also has some of its original seaming, but the stitching is simply overcasting, done with several strands of red weft yarn (fig. 17). This tunic was well used; creases at the base of the armhole remain, leaving no doubt that it was fully seamed at the sides. The opened-out dimensions of the tunic, 84 (warp) by 136 cm, are much less than most of the ponchos or tunics. Only one example, which does not have seams, is narrower.²¹

The two narrowest garments in the sample alternate the eight-pointed star motif with weft-patterned figures, abutting them on two edges without the tapestry background between them (fig. 12e). Rowe has pointed out that this particular design format was adopted for the tapestry motifs which occur on tunics of the provincial Chuquibamba-Inca style (1992, pp. 35-37). These two examples are narrower in proportion to length as well as smaller in size, giving some added weight to Rowe's suggestion that this design format coincides chronologically with the Inca occupation period.²² The narrow tunic form itself (fig. 17), so rare among garments that conform to other Chuquibamba technical and stylistic criteria, may have been made under Inca influence (Rowe, p.c., November 1998).

As there are fifteen complete ponchos and two complete tunics in the sample, it appears that the poncho was the standard Chuquibamba garment for men. The two examples of tunics in the sample may be stylistic hybrids, the narrower one (fig. 17) reflecting Inca influence and the wider tunic (figs. 24, 25), possibly Chiribaya influence.

The majority of the complete and the fragmentary ponchos have a design format that consists of weft-patterned figures inset in squares on a background of horizontally divided rectangles woven in tapestry. The most frequently occurring type has rectangles in straight align-

ment and a four-color scheme of red, green, orange, and blue, arranged in inverted pairs (fig. 15c). If there is a "standard" Chuquibamba design format and color scheme, this appears, based on frequency (figs. 3, 7, 23), to be it. A three-color scheme is also found often (fig. 24), but it occurs on a background of divided rectangles in alternate alignment (fig. 15b). Single examples of six-color schemes occur on ponchos with background rectangles in straight alignment (figs. 15f, 16) and in alternate alignment.

Fig. 22. Detail of the poncho in figure 21, showing the unusual tapestry motif of paired camelids (fig. 19e) in the orientation in which it was woven. The camelids are right side up when woven, but are turned at right angles when worn (see fig. 21). Overall dimensions, 161.1 (warp) x 231.3 cm. Photo courtesy of the Art Institute of Chicago 1955.1766.



Fig. 23. Detail showing the neckslit of a poncho. A thread was darned into the warp channels on both sides of the neckslit before the warps were cut for the opening. The darned thread prevented fraying and gave the appearance of a finished edge. Overall dimensions, 181.5 (warp) x 240.5 cm. Photo courtesy of the Museo de Arte de Lima, Gift of Sr. Jaime Valentin Coquis, 2.1-84-IV.

Fig. 24. A complete tunic with original seams, edge bindings, and reinforcements at the base of armholes and neckslit. Only two complete tunics are in the sample. 120 (folded) by 170 (warp) cm. Photo courtesy of the Toyama Memorial Museum of Art, Kawashima, Japan.

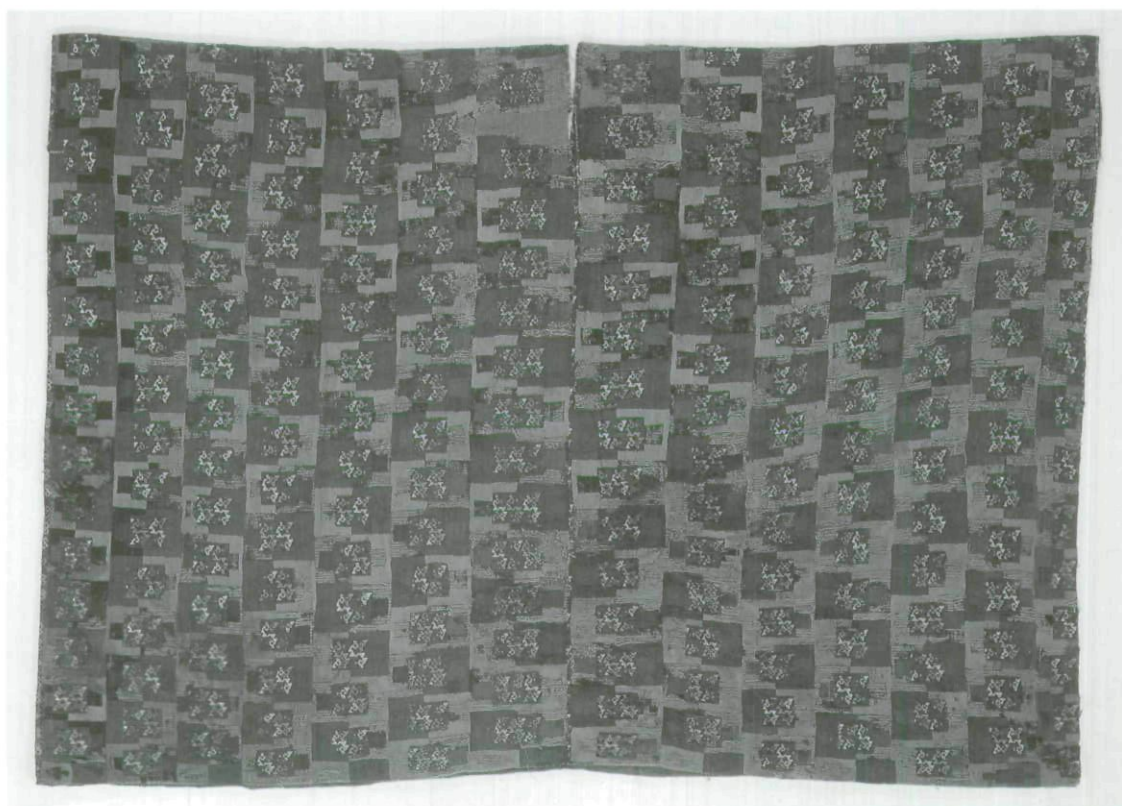
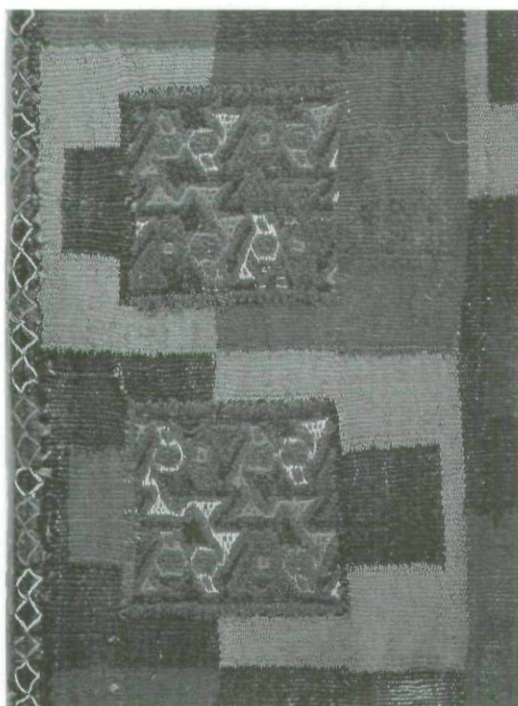


Fig. 25. Detail showing the decorative side seam of the tunic in figure 24. A contrasting embroidery thread outlines a band of diamonds on top of the figure-eight seaming stitch. In the constructed tunic, the figured squares and the background rectangles are turned ninety degrees from the loom orientation, as they likely were in ponchos as well. Photo courtesy of the Toyama Memorial Museum of Art, Japan.



A number of ponchos or fragments have a compact design format (fig. 12h). Tapestry-woven stars alternate with weft-patterned figures and abut directly on all sides (figs. 21, 22). These ponchos have the largest numbers of tapestry and weft-patterned squares.²⁴ Although there is no tapestry background to carry a color scheme, a four-color scheme is often carried in the tapestry stars, most visible on the diagonals (fig. 15d). This favored color scheme is used on many Chuquibamba textiles in the sample. Of the design formats summarized in figure 12, only variants d and g are not present in the current sample of ponchos. Birds (fig. 18b) and snakes (fig. 18c) are the most common weft-patterned figures on ponchos. Ponchos often have one or two figures; as many as six have been noted.

Ponchos are a large and important class of Chuquibamba garments, but there are many other garment types. In classifying the sample, I kept in mind a useful hypothesis generated by another textile specialist. Sophie Desrosiers notes that men's tapestry tunics from highland traditions are usually worn with the warp oriented horizontally and the neckslit vertically.²⁵ Desrosiers develops this idea further in noting that corresponding women's garments

have the warp oriented vertically and the apertures for head and arms oriented horizontally when worn. She hypothesizes a male/female opposition carried in the warp and aperture orientation. Although the warps are entirely hidden, their orientation in garments may have embodied a fundamental opposition that reiterated gender difference. Certainly, the tunics conform to Desrosiers' hypothesis, and it is highly probable that the ponchos were worn similarly. The warps, oriented vertically on the loom, become horizontally oriented in the garments. The neckslit, fashioned in the horizontal position on the loom, is worn in a vertical orientation. The imagery, design formats, and color schemes (figs. 18, 12, 15) are diagrammed in loom orientation, but the fabrics would have been turned on their sides when worn as ponchos or tunics.

Loincloths

The question as to what men were wearing under their ponchos is answered by a group of smaller cloths with four ties or fragments of ties positioned on the longer sides (fig. 26). Loincloths are rectangular like tunics, but they were woven in a single piece that, on the loom, was longer than it was wide. Some have a narrow pattern band in the center that mimics an embellished seam. Several have end borders with contrasting patterns, and some have edge bindings worked in cross-knit loop stitch or over-casting (fig. 27). The four ties, when present, are re-plied cords or obliquely interlaced braids. Occasionally, extra cords of varying lengths are attached near the corners. The dimensions of loincloths range from 79 to 94 cm (warp) by 57 to 69 cm.²⁶



Fig. 26. A man's loincloth was woven as a tall rectangle but was probably worn sideways, tied at the hips and with flaps of fabric covering the upper thighs. This manner of wearing a loincloth shows only the right side of the fabric. The ties are 39 cm apart. 83 (warp) x 58 cm. Museo Banco Central de Reserva del Perú, Lima 3543.



Fig. 27. A loincloth with contrasting end borders and a central pattern band that imitates an embellished seam. An edge binding of cross-knit loop stitch covers the side selvages, and remnants of four braids are attached to the long sides. 81 (warp) x 61.5 cm. The Metropolitan Museum of Art, Gift of Arthur M. Bullowa, 1983.497.2.

The hip ties, well inset from the corners on the long sides, are too close together to allow the loincloth to be worn with front or back flaps, like coastal loincloths. The distance between the ties, ranging from 39 to 54 centimeters, does not allow the cloth to rise high enough on the hips to stay in place. It seems probable they were worn with the long dimension sideways, turning the fabric perpendicular to its orientation on the loom. This manner of wearing a loincloth results in flaps of fabric that cover the upper thighs as well, like the legs of trousers but open on the outside. The extra cords, attached near the corners of several loincloths, might have hung like tassels from the outside edges or might have been tied together to close the "legs." While this manner of wearing a loincloth is admittedly unusual, a loincloth recorded among the contemporaneous textiles from Estuquina in the Osmore drainage to the south has a feature in common.²⁷ It, too, has fabric beyond the waist ties which would have lain as flaps on the inner thighs. Wearing a loincloth in this manner is also consistent with Desrosiers' hypothesis concerning the warp direction in highland garments for men. As in the tunic, the warp would run horizontally.

The sample of loincloths includes five complete examples and two fragments. The favored design format for the loincloths is absent among ponchos, and vice-versa. Three loincloths have a background entirely figured with birds and have tapestry stars inset in squares (figs. 12d, 13). Another loincloth (fig. 28) has a semi-compact design format (fig. 12g), which is also absent in the poncho sample. This loincloth has a two-color scheme in the stars and a four-color scheme in the reduced background area. The weak correlation between the design formats of loincloths and ponchos/tunics is unexpected, but it may reflect no more than the small size of the loincloth sample.

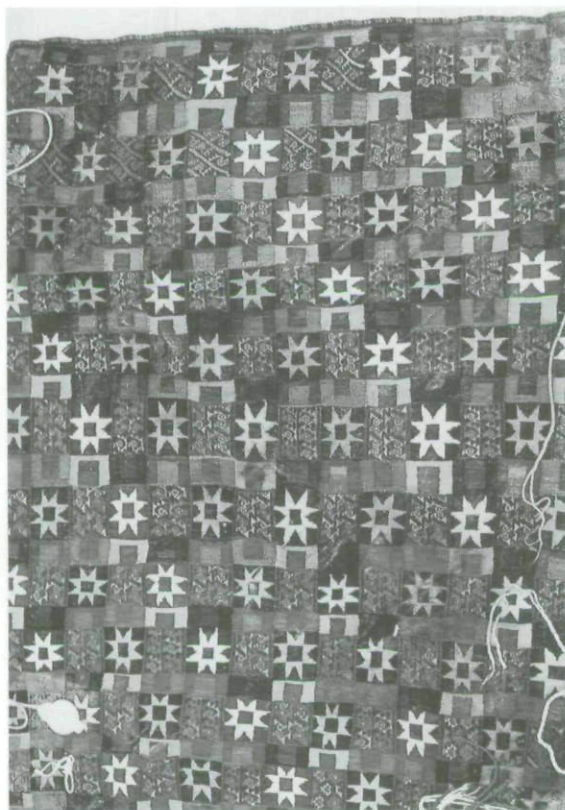
The loincloths in the sample repeat eight-pointed stars, either solely or in alternation with weft-patterned figures. Two-, three-, and four-color schemes are present in the star-spangled loincloths. Several loincloths have the compact format of squares abutting on all sides (fig. 12h), with eight-pointed stars alternating in the favored four-color scheme (figs. 26, 27). Birds (fig. 18a-b, f-g) and fish (fig. 18i) occur in weft-patterned squares, either one, three, or four variants on the same loincloth.

Bags

Bags of several sizes, including two impressively large bags with small tabs on the front, are included in the sample (figs. 29, 30). The large bags are constructed from a single rectangle which, on the loom, was wider than it was tall. The fabric is folded transversely, to make the bag bottom, and the sides are seamed. A cord attaches near the mouth of the bag and lavish fringes hang along the bottom edge. The small tabs are separately woven rectangles, folded in half, sewn at the sides, and stitched onto the bag front. Fringes with needle-worked crowns are attached to the folded and stitched tabs and to the bag bottom. Evidently, one of the carefully woven bags was not quite finished, as indicated by the casually basted side seam (fig. 30). Like the loincloths and ponchos, the warp is oriented horizontally in the constructed bag.

The two large bags pictured are similar enough in workmanship, weave quality, and finishing details to suggest that they were made by the same person. Like many ponchos, they have a background of divided rectangles surrounding squares with weft-patterned figures. The two bags differ subtly in color and number attributes. One has nine horizontal rows

Fig. 28. Loincloth with a semi-compact design format (fig. 12g). Different color schemes operate regularly in the stars, tabs, and background space around the tabs. A tubular edge binding in cross-knit loop stitch reinforces the edges. 94 (warp) x 69 cm. Museo Banco Central de Reserva del Perú, Lima 3592.



and fourteen columns of rectangles (as woven) and, in correspondence, has nine folded tabs, while the other has eight rows and eight tabs. One has a four-color scheme and the other, a three-color scheme. The flamboyant fringes also alternate three and four colors in different patterns. They share some, but not all, of the same weft-patterned figures. The high quality of the weaving and finishing, coupled with the subtle differences, might suggest that they were woven by a specialist for use by different people or for use on different occasions. The two large bags carry a visual reference to coca ceremonies. The folded tabs sewn to the face of the bag mimic the appearance of woven-in pockets on coca bags still made in the Andes today. Functional pockets on coca bags open to the interior of the bag and are used to carry lime, the substance that is chewed with coca leaves. While the folded tabs on the large Chuquibamba bags are blind, and so cannot carry anything, the visual reference to the form of coca bags is apparent. The enormous size of the bags suggests ceremonial or symbolic, rather than daily, use.

The intermediate-size bag is often slightly trapezoidal in shape.²⁸ Completed bags have a fringe at the bottom, usually composed of long tassels with embellished crowns (fig. 31). Cross-knit loop stitching in several colors is used for a tubular edging on the side seams, an edge

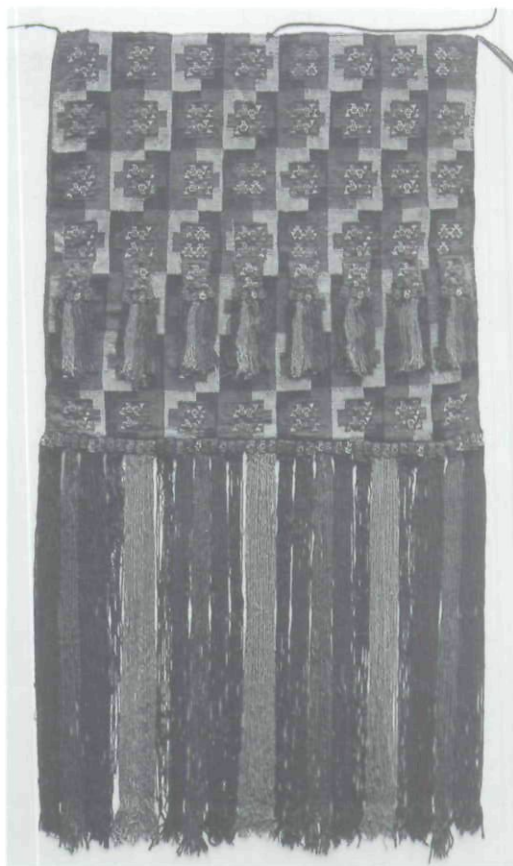


Fig. 29. A bag with eight folded tabs stitched to the front face appears to imitate the form of coca bags with small pockets that open to the interior. The very large size of this bag may suggest a ritual or ceremonial use. 103, including fringe, x 57 (warp) cm. Museo Banco Central de Reserva del Perú, Lima 3544.



Fig. 30. A bag with nine folded tabs on the front face was probably made by the same person who made the bag illustrated in figure 29. The size, fringes, and figures are similar but not identical. The side seams on this bag are unfinished. 113, including fringe, x 56 (warp) cm. Museo Banco Central de Reserva del Perú, Lima 3591.

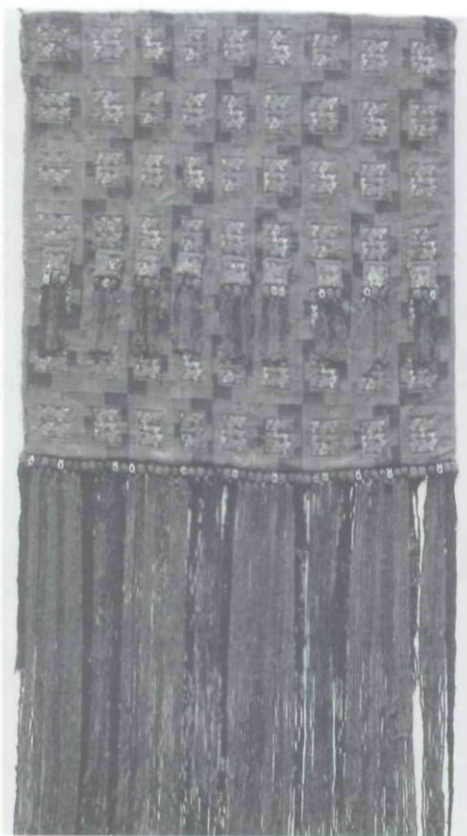


Fig. 31. A trapezoidal bag, possibly for carrying coca leaves. Bags of this size and shape have a plain color background, often green. 48.5, including fringe, x 37 (warp) cm. Museo Banco Central de Reserva del Perú, Lima 3547.

finish found on some of the loincloths (fig. 28), and the apertures on one tunic (fig. 24). The bag mouth has a simpler, monochrome edge binding in the same stitch, as do most loincloths.

Some trapezoidal bags appear to be woven in two pieces connected by a dovetailed join along the bag bottom (fig. 32). The join is made by inserting a single cord into alternate groups of weft loops along the selvedge of each piece, probably after removing a thick warp from each.²⁹

Two bags (figs. 31, 32) are slightly atypical in that the weft-patterned figures are outlined in a dark color, not the paired red wefts usually used. They are finely woven, have particularly striking color combinations, and include a less common bird figure (fig. 18e). The distinctiveness of these details suggest they are the work of the same person. Another bag in the same museum accession (fig. 33) has more typical figures and outlining. It lacks fringes and edge bindings and is unfinished.

Most bags of this size have a tapestry background of a single color with the weft-patterned squares arranged in alternate alignment (fig. 12c). Of the six in the sample, four have a green background while the other two are red and white. The tapestry tabs carry a two-color

scheme in all except the bag with the white background. Although this is smallest bag, it has a three-color scheme in the tabs, as well as more than three times the number of figured squares on each face.

Small square bags without fringes, also woven as wide short fabrics, have an unusual handle or carrying cord. Bifurcating cords, which attach to the top and bottom corners of the bags, are knotted together (fig. 34). Ten small bags from the same museum accession³⁰ have figures arranged in bands rather than within squares. Nine of the ten bags alternate plain stripes or stripes of tapestry stars with weft-patterned bands of Chuquibamba motifs. The more elaborate bags flank the central band with reflectively symmetrical bands. Red is the predominant color of most of the bags, although yellow or white may also predominate (fig. 35). Some bags have colorful edge bindings in cross-knit loop stitch while others lack them. One unfinished bag lacks even basted side seams and is shown flat, in the orientation in which it was woven (fig. 36).

A single bag in this group has standard Inca motifs in bands woven in complementary weft-patterning (without substitution).³¹ The presence of this bag in the group suggests that the small

Fig. 32. This red trapezoidal bag was woven in two pieces. The join is just visible along the lower edge near the right side. The partial lower fringe lacks the embroidered crowns that usually cover the top of the tassels, suggesting that it was not quite finished. 51, including fringe, x 34 (warp) cm. Museo Banco Central de Reserva del Perú, Lima 3582.

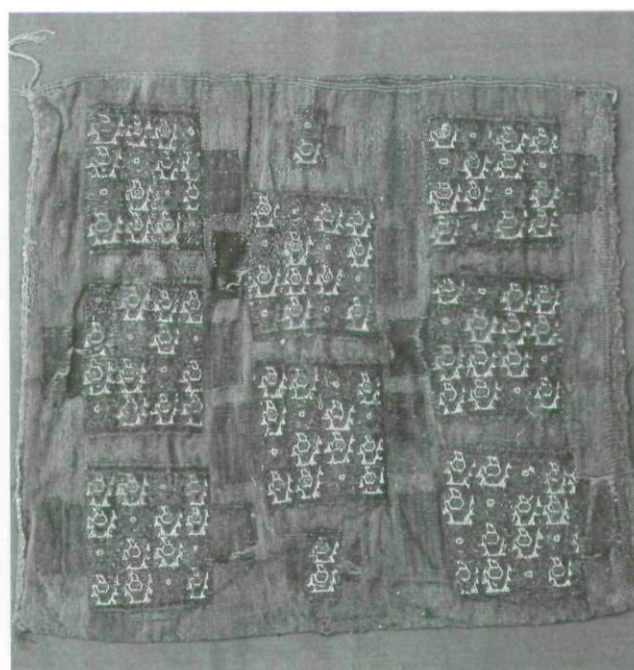


Fig. 33. An unfinished trapezoidal bag, lacking edge bindings and fringe. Eight larger squares and two smaller squares repeat bird figures (fig. 18a) against a green background. Red and blue tabs alternate regularly. 28.5 x 31 (warp) cm. Museo Banco Central de Reserva del Perú, Lima 3584.

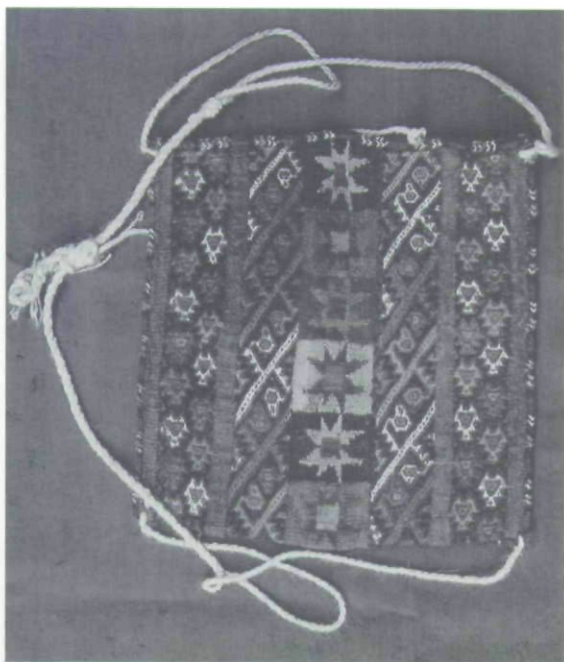


Fig. 34. A type of small bag with figures arranged in bands has Y-shaped ties attached at the top and bottom corners which are then knotted together. This type of bag may have been a unisex accessory. 17.5 x 18 (warp) cm, without ties. Museo Banco Central de Reserva del Perú, Lima 3576.

striped bags with bifurcating cords attached to the four corners are contemporary with the Inca. The small size of the bags and the banded format may reflect Inca influence. However, the carrying cord differs from that on Inca bags, which have the usual strap attached at both sides of the bag mouth.

Despite the obviousness of a bag mouth, it is difficult to know the orientation in which the small bags were worn or carried because the Y-shaped cords are attached to both the bottom and the top corners. Like a quiver, the bag might lie diagonally if put over the shoulder, or even closer to the horizontal if the cord was wrapped around the wrist. It is not clear whether they were carried like the larger bags, with the warps oriented horizontally (and the bag mouth upward).

Rowe points out that men and women used small bags in the Inca period and that the bags were undifferentiated by gender in depictions in the chronicles (1997, p. 30). Perhaps the small Chuquibamba bags with the unusual strap attachment were also unisex accessories. A unisex accessory, however, might still be differentiated by gender through the manner in which it was carried or worn. The chronicler Guaman Poma, in his illustrated letter to the Spanish king, shows Inca men and women carrying their bags differently. Most women grasp the two shanks of the handle in a fist, with the loop of the handle extending above. Most men loop the bag handle around the wrist.³²



Fig. 35. Nine small bags of this type, some of them unfinished, alternate bands of tapestry or weft-faced plain weave with complementary-weft patterned figures in the Chuquibamba style (see figs. 34, 36). A tenth example with bifurcating ties has Inca motifs, indicating that this type of bag is late in the Chuquibamba sequence. 22 x 18.5 (warp) cm, without ties. Museo Banco Central de Reserva del Perú, Lima 3574.

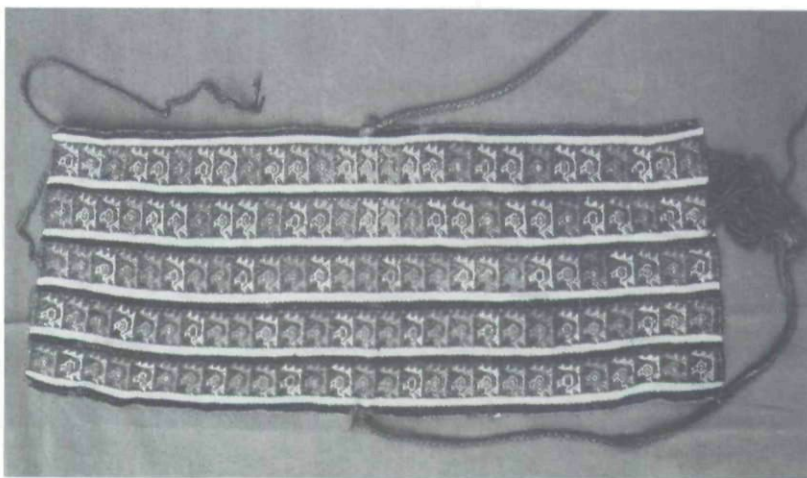


Fig. 36. An unfinished small bag shown in the orientation in which it was woven, with warps in the short direction. The ties that would attach to the bottom corners of the finished bag are already in place. The same bird figure (fig. 18a) repeats in squares on other Chuquibamba textiles. 19 (warp) x 46 cm, without ties. Museo Banco Central de Reserva del Perú, Lima 3533.

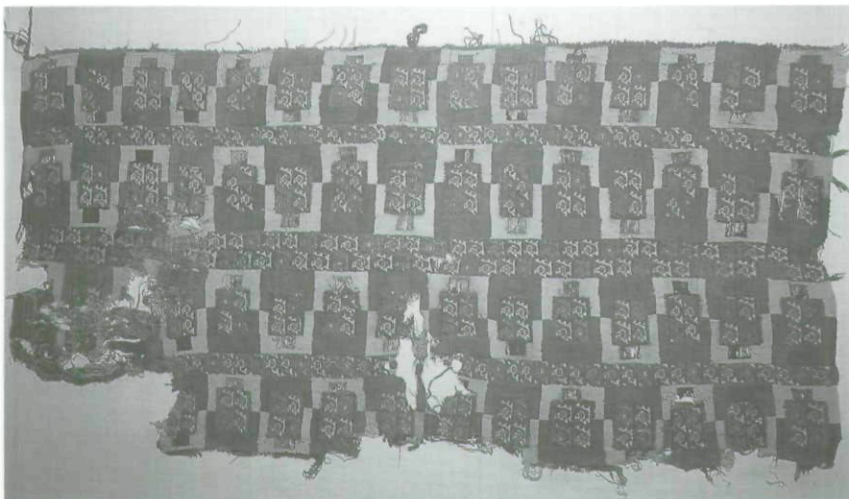


Fig. 37. An opened-out bag from the site of Pacaisito, near Camaná. This is the only textile in the sample to combine the banded and gridded formats in this manner. 44 (warp) x 89 cm. Museo Arqueológico José María Morante de la Universidad Nacional de San Agustín, Arequipa AR3-IV-2-1.

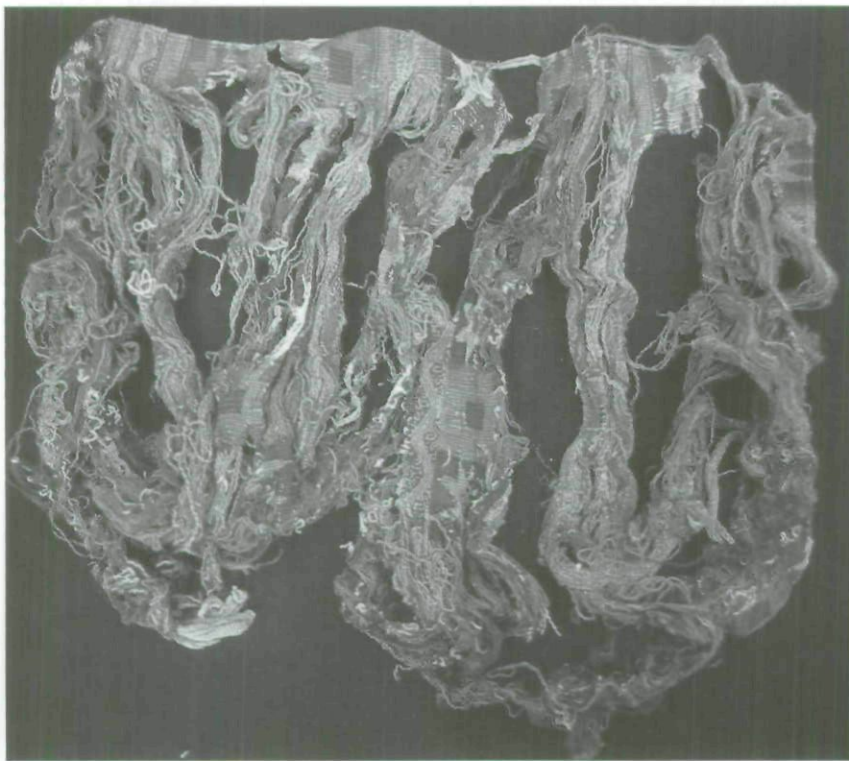


Fig. 38. A shredded bag recovered from the site of La Horca, near Camaná. Bands of tapestry stars and complementary-weft zigzags, visible near the bag mouth, alternate with natural gray bands. 22 x 19 (warp) cm. Museo de Arqueología, Universidad Católica Santa María, Arequipa. La Horca, RQ 11-13, bundle 26.

Several other variations of bags exist. On a large bag from the site of Pacaisito, near Camaná, bands of bird figures alternate with rows of divided rectangles containing weft-patterned squares (fig. 37). The bag has a two-color scheme of red and yellow and is shown opened flat, in the orientation in which it was woven.³³

Three smallish bags, two of which were available for examination, were recovered at La Horca, on the outskirts of Camaná, in a rescue excavation directed by Dr. Augusto Belan Franco of the Universidad Católica de Santa María, Arequipa. One is almost entirely shredded, but bands of tapestry-woven stars and weft-patterned bands with zigzags are seen to alternate with natural gray stripes in the area of the bag mouth (fig. 38). The other bag has a single band of tapestry stars and a series of stripes in red, yellows, and one or more dark colors, now deteriorated. Based on a drawing in a thesis, the third fragmentary bag appears to have bands with tapestry felines, camelids, and birds.³⁴ Unfortunately, no diagnostic ceramics accompanied the finds from La Horca.

There is considerable variety in the size, form, and finish of bags in the Chuquibamba style. Some types were probably used for carrying coca leaves. The orientation of the warps in the large and medium sizes of bags is the same as that in tunics and loincloths, suggesting that they may belong to the class of male accessories. The smallest bags, with the unusual carrying tie attached at all four corners, may have been used by men and women, but were perhaps oriented or suspended differently.

Belts

Two distinct types of belt occur in the sample. One is a long flat belt which would have been worn with the warp running horizontally (fig. 39). The other is a two-layer belt in the form of a long pouch, with the warp running vertically when worn. There is some indication that the second type belongs in the class of women's garments, and it will be described in a later section. The clear distinction between the two belt types might suggest they are gender specific. If Desrosiers' hypothesis is correct, the long flat belt would have been used by men. Certainly, a belt would be a convenient accessory to gather in the fullness of a capacious poncho or wide tunic (fig. 24). A flat belt is about 160 cm long (warp) and 6

to 8 cm wide, using measurements projected from an incomplete and a fragmentary belt, in addition to one complete example.³⁵

The flat belts are weft-faced and have the same complementary-weft weave and figures that occur in the weft-patterned squares of larger garments (fig. 18a-c). The belts often have a contrasting weave or pattern near the center. It is tempting to think of this as a solution to a technical problem (fig. 40). These belts are the only long, narrow fabrics among Chuquibamba textiles identified so far. Some technical accommodation for the length might have been made on the vertical loom that would explain the change of weave, or a different type of loom may have been used. Several examples have weft-faced plain-weave bands between patterned sections.

The sample includes an exceptional belt, almost three times as long as the others (fig. 41). There is no interruption in the overall pattern of interlocking snakes (fig. 18c), either by color bands or a change in weave. The length alone suggests that another type of loom was used to make this belt. It seems unlikely that it could have been woven without rolling the completed cloth around a loom bar as weaving progressed, a capability the South American vertical loom does not have. A small amount of white cotton is used on the edges and as one of the weft yarns. This might suggest some influence from a coastal tradition, in materials and possibly in loom type as well. The long ties attached to this belt have the only warp-faced structure encountered among textiles presently associated with Chuquibamba. The warp yarns, visible on the surface, interact with the weft yarns by wrapping around them. The weft is circularly inserted,

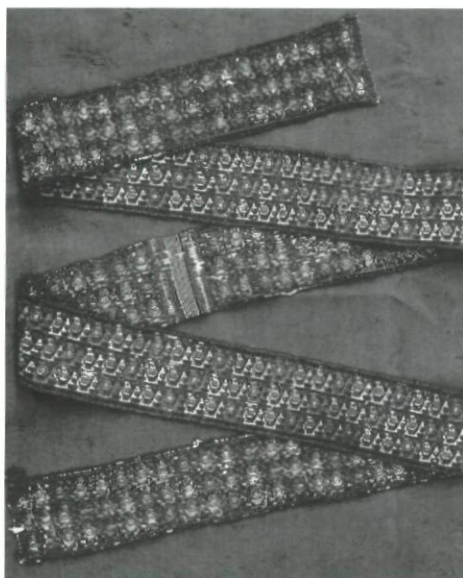


Fig. 39. Flat belts were woven as long narrow strips of fabric and worn with the warps oriented horizontally. Complementary-weft patterned birds (fig. 18a) are repeated along the length, except for central band which is weft-faced plain weave. 160 (warp) x 6 cm. Museo Banco Central de Reserva del Perú, Lima 3569.

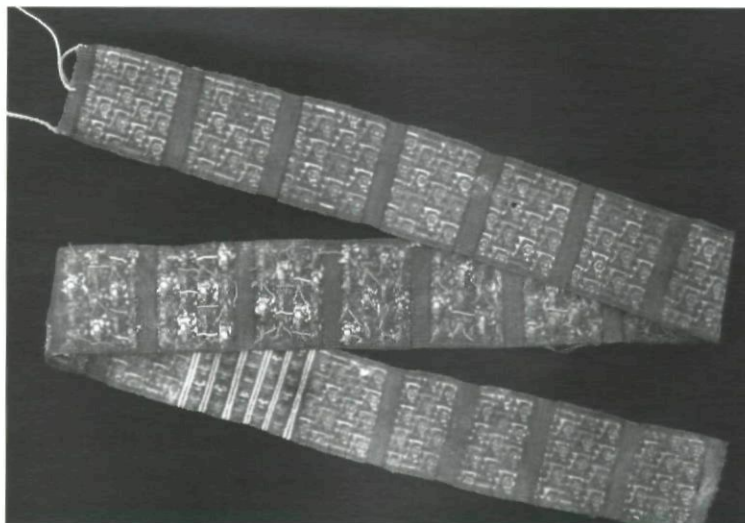


Fig. 40. A fragmentary flat belt with blocks of birds separated by plain bands. The contrasting central section has weft-faced plain-weave bands alternated with complementary-weft patterned fish. The original length, projected from the central section, would have been 164 cm. 107 (warp) x 5.4 cm. Museo Nacional de Arqueología, Antropología y Historia del Perú, Lima 07323.

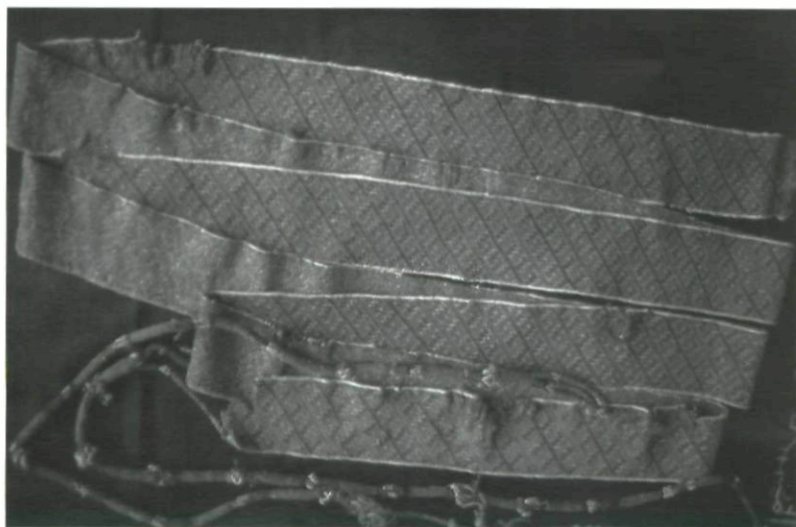


Fig. 41. An exceptionally long flat belt has an uninterrupted pattern of interlocked snakes (fig. 18c). Flat belts, particularly this one, may have been woven on a loom that was different from the vertical loom used for the majority of Chuquibamba textiles. The tie attached to this belt is a tubular warp-faced construction. 450 (warp), without tie, x 7.8 cm. Museo Arqueológico José María Morante de la Universidad Nacional de San Agustín, Arequipa, without number.

probably on a needle, to make a tubular tie.

The flat belts are tentatively included in the class of men's garments. Since belts are notoriously varied in many styles, their placement in the garment classification may have to change as the Chuquibamba style becomes better understood.

Men's garments—the poncho, loincloth, and most bags—appear to have been worn or carried in an orientation that is at right angles to the one in which they were woven on the loom. The warps run horizontally in the garments, as has been noted. Folds in the garments, when worn or carried, are made parallel to the warps: at the shoulders, at the crotch, and along the bottom of bags. The patterned squares, always woven with tabs above and below, and the background rectangles, are turned sideways in men's garments, and the tabs appear at the sides of the squares when worn or carried (figs. 17, 24, 29-33).

Women's Garments

Large rectangles in the Chuquibamba style, with and without neckslits, have often been labelled by authors as mantles, with the exception of Verheeken-Lammens, who carefully described the reinforced neckslit of a poncho (1994, pp. 146-47). Other rectangular garments, without neckslits, have woven-in indications that they were worn with the warp oriented vertically. According to Desrosiers' hypothesis, such garments would have been worn by women. Two types of large rectangular garments have a fold-line that is woven in, perpendicular to the warps. Since cloth hangs downward from

any fold, the warp would have had to be vertical when the garment was worn folded. The fold-line is indicated by a change from right side to wrong side of the weft-patterned weave across the width of the fabric (fig. 42). The Hiram Bingham photograph of the loom (fig. 11), which shows raised platforms on both sides, provides an insight into how these textiles were woven. Even the largest textiles were woven flat and fully extended. The upper part was woven from raised benches, and the change to the wrong side of the weave was made by weaving from a raised bench on the other side of the loom. Several weavers may have worked side by side; this is indicated by the dovetail joins that pass through areas of the same color as well as between areas of different colors (fig. 43). When a folded garment of this type was worn, the right side of both layers was outermost.

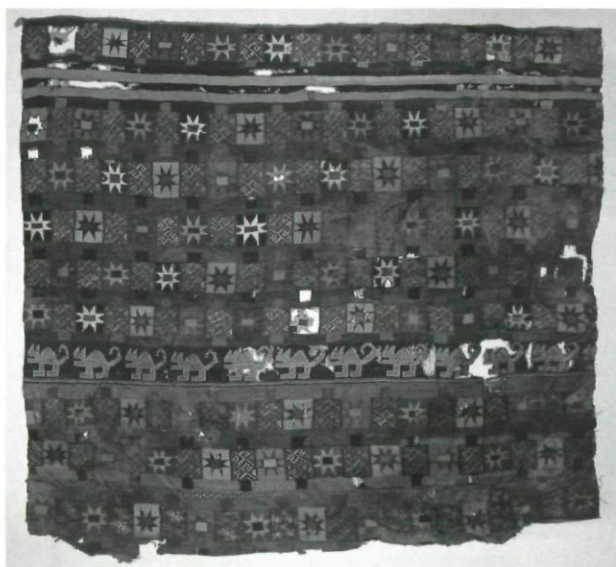
The weft-patterned squares on Chuquibamba textiles are woven with tabs above and below. Wearing a garment in the same orientation in which it was woven, preserves not only the vertical orientation of the warps, but also the position of the tabs, the vertical orientation of rectangles, and the diagonal slant of color repetitions. The visual contrast with men's garments, which appear to have been worn at right angles to the way in which they were woven, is marked.

Dresses

One type of cloth with a fold-line occurring about one-fifth of the way down from the terminal selvage is almost square (fig. 44). It has a broad central zone and narrow flanking zones, separated by dark borders. A few color stripes near the outer edges of the flanking zones and a row of small patterned squares demark an outer border. A narrow pattern band, imitating an embellished seam, divides the central zone. The fold-line falls within the central zone but near the dark border separating it from the flanking zone. The fold-line is consistently placed nearer the terminal warp selvage, rather than the initial warp selvage.

The size suggests that this garment type could be a wraparound dress, with the two layers of folded cloth worn over the bodice. The imitation seam would fall at the waist if the dress was worn in this manner. The symmetrical design on the loom is altered when the garment is folded (fig. 45). The bodice and hem areas repeat, rather than reflect, the arrangement of flanking zones and borders, when worn in this way. The dimensions of complete or nearly

Fig. 42. Fragment of a shawl showing the change from right to wrong side in the bottom row of figures. The change indicates the garment would have been worn folded along the line. The fold-line falls in what was the approximate center of the complete garment. 105 (warp) x 120 cm. Photo courtesy of Nationalmuseet, Copenhagen, Christiani og Nielsen Collection, without number.



complete garments of this type range from 146 to 166 cm (warp) by 153 to 166 cm.³⁶ With the fold-down over the bodice subtracted from the warp direction, such a dress would still be mid-calf length or longer,³⁷ depending on the adjustment of the fold and the height of the person wearing it. The weft dimension is large enough to wrap around the body comfortably, allowing for movement.

This style of dress is not unique to Chuquibamba. Wraparound dresses with a folded bodice are depicted on Nasca embroideries and ceramics (Rowe 1991, p. 106, fig. 11 and p. 114, fig. 20), and a miniature dress clothes a Nasca figurine (Rowe 1991, p. 96, fig. 4, right). A narrower dress with a folded bodice is worn over a shift-dress by women in the Tarabuco region of Bolivia today (fig. 46), where a pin secures the overdress at one shoulder and a belt is worn at the waist. Chipaya women also wear an overdress with a folded bodice, belted and pinned at both shoulders (Flores Ochoa, MacQuarrie, and Portús 1995, vol. II, pp. 216-7).

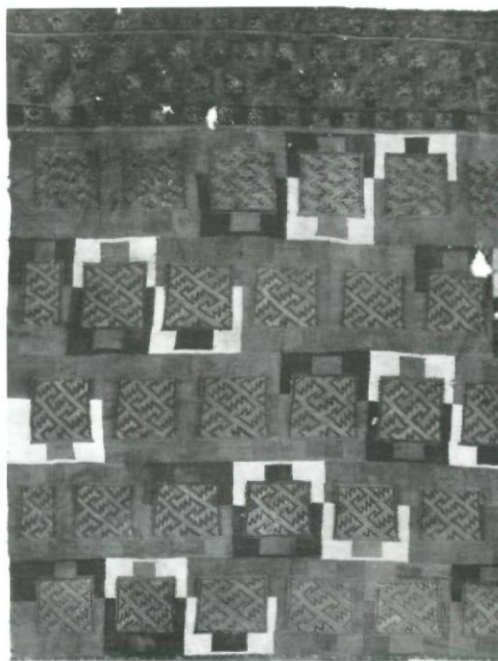


Fig. 43. Detail of a complete dress, showing the horizontal change from right to wrong side of the weave. A fainter, vertical line in the weave, to the right of center, is a join made on the loom that passes through color areas as well as between them. Wide Chuquibamba garments were woven in sections, perhaps by several people working side-by-side. Overall dimensions, 146 (warp) x 161.5 cm. Photo courtesy of Cleveland Museum of Art, Gift of Mrs. Henry Norweb, 40.498.

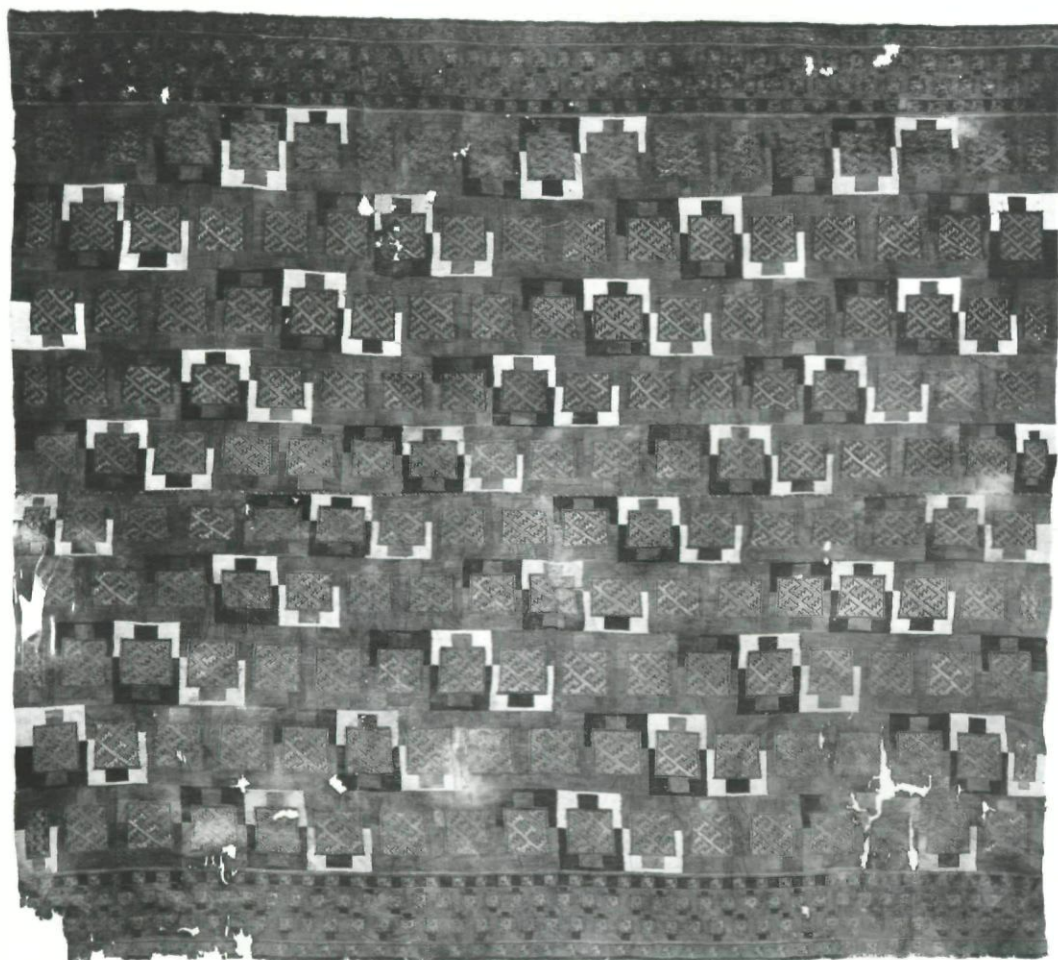


Fig. 44. Complete dress with fold-line near the upper edge (also see detail, fig. 43). Dresses have a broad central zone and narrow flanking zones, separated by dark borders. The flanking zones have an outer border composed of a few plain stripes and a final row of figured squares. A narrow patterned band, imitating an embellished seam, spans the center of the fabric and marks the approximate waistline in the dress when worn folded. 146 (warp) x 161.5 cm. Photo courtesy of Cleveland Museum of Art, Gift of Mrs. Henry Norweb, 40.498.



Fig. 47. An Inca figurine that accompanied the sacrifice of a young boy on Mt. El Plomo in Chile gives some insight into how Chuquibamba garments were probably worn. The miniature Inca dress is wrapped around the body, pinned at the shoulders, and belted. The folded shawl is wrapped around the shoulders and pinned at the chest. Museo Nacional de Historia Natural de Santiago de Chile 28.210, 28.212, and 28.216a-c, ch.

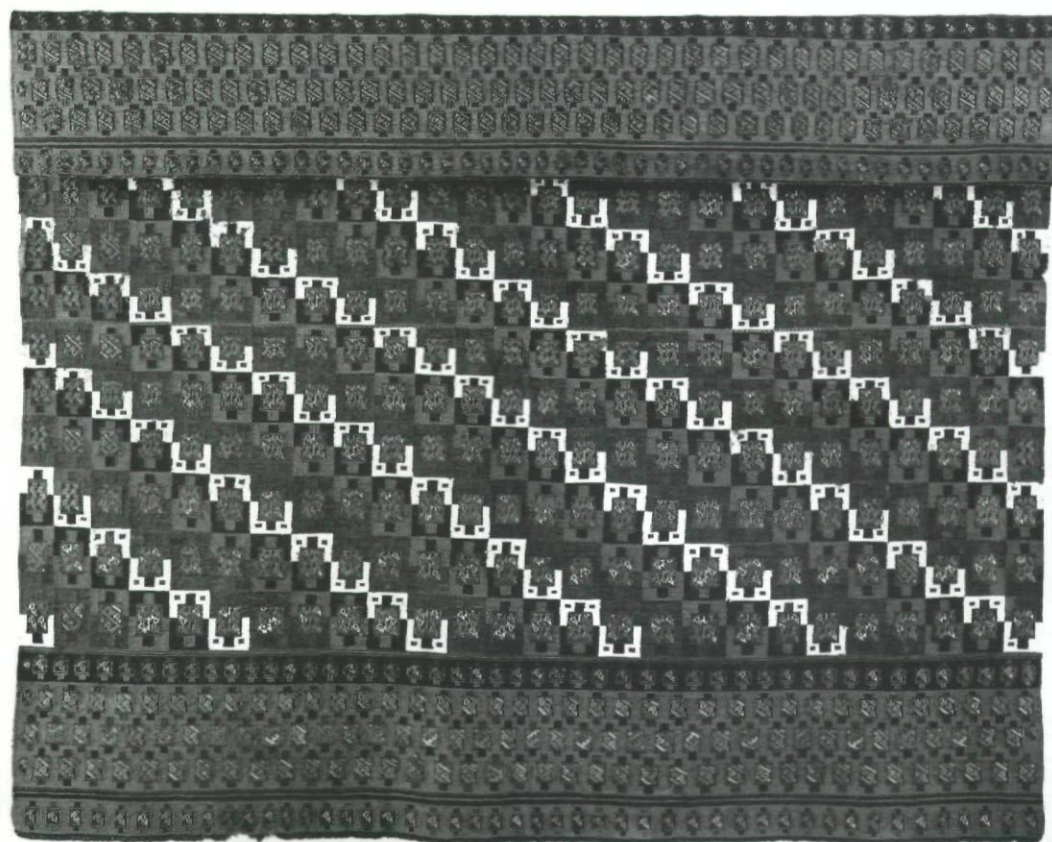


Fig. 45. Complete dress, shown with the upper flanking zone folded down, as it would have been worn with two layers over the bodice. The dress was wrapped around the body and probably pinned at the shoulders and belted. 146 (warp, unfolded) x 153 cm. Photo courtesy of The Metropolitan Museum of Art, Purchase, Pfeiffer Fund, Arthur M. Bullowa Bequest, 1995 109.



Fig. 46. In the Tarabuco region of Bolivia, women wear a traditional dress with folded bodice over a shift-dress. It is pinned at one shoulder and belted. Demetria Gonzales Flores of Candelaria wears the patterned portion of the bodice folded to the inside, except for special occasions.

Temporally and geographically closer to Chuquibamba, an Inca-style dress provides a vivid look at how a wraparound dress might be worn. It is worn folded in two complete layers, as shown on a female figurine accompanying a sacrificial burial on Mt. El Plomo (fig. 47).³⁸ Wrapped around the body and pinned at both shoulders, it is worn with a belt. The openings for head and arms are horizontal and separated by the pinned fabric at each shoulder. Full-sized versions of this type of dress have been identified by Rowe (Rowe 1997, p. 14-15 and fig. 16), who has also published the more common Inca "square" dresses. The length of the square dresses indicates that they had to be worn with at least a shallow fold, one that might have been at the bodice, as in Chuquibamba dresses.³⁹ The position of the fold in the Inca dresses is not indicated in the weave because the two faces of the weave are equally finished.

Another dress in the Chuquibamba sample is more than complete (fig. 48). The original intact dress has dimensions of 158 (warp) by 157.5 cm. It has a 20 cm strip from another textile joined to the right side, making a total width of 177.5 cm for the altered dress. Although the strip is clearly an addition, it may be an ancient addition. It is neatly joined to the main textile by inserting an element into weft loops from the edges of both pieces. The dress may have been reworked for someone of larger girth and the added strip could have been largely concealed by the overlapping edges of the dress, or by a large shawl worn around the shoulders. A shawl fragment, matching this dress in colors and weft-patterned figures, is in the same museum collection.⁴⁰ Two complete dresses in private collections were added to the sample shortly before publication.

Three more dresses in the sample are complete in weft dimension only. One is missing a horizontal strip from the central zone but is otherwise complete (fig. 49). The fold-line is visible near the upper edge of the central zone, where the change from the right side to the wrong side is clearly visible in the final row of weft-patterned squares. The dark border with figured squares that separates the central and flanking zones on most dresses is replaced by a plain dark stripe and some thin stripes. The flanking zone has an extended pattern of birds, like one that commonly occurs in patterned squares (fig. 18a). This dress is from Huancarqui in the Majes Valley.⁴¹

Two other incomplete dresses have both been cut down and roughly refashioned into



Fig. 48. Detail of a complete dress. At the left, the flanking and central zones are visible, with the fold line indicated by the change from right to wrong side of the patterned weave. A strip from a poncho was added to the right side of this dress, probably in antiquity. Overall dimensions, 158 (warp) x 177.5 (originally 157.5) cm. Museo Nacional de Arqueología, Antropología y Historia del Perú, Lima 22700.

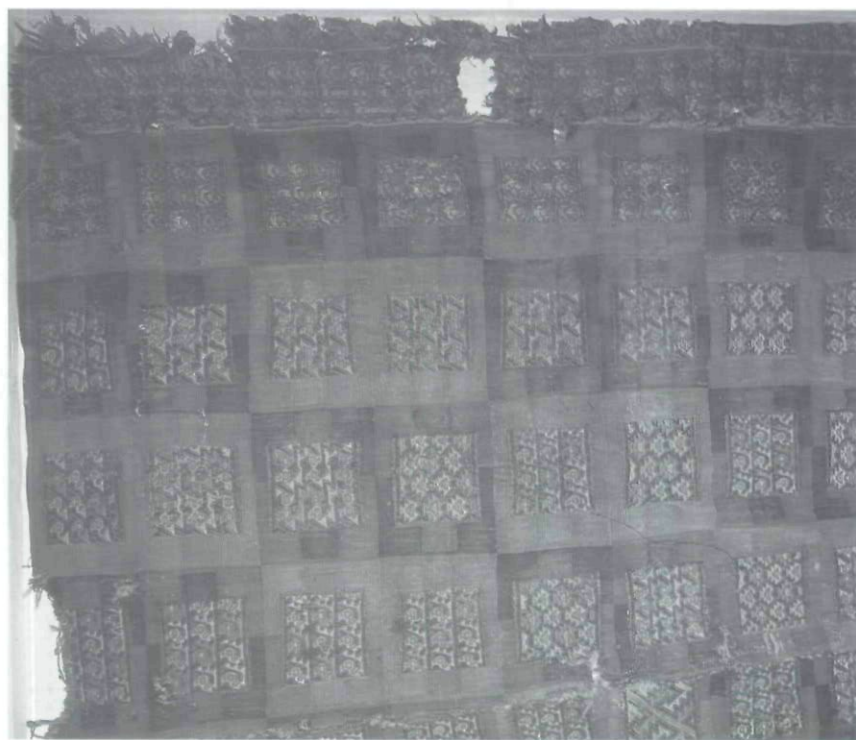


Fig. 49. Detail of the upper section of a fragmentary dress from Huancarqui, Majes Valley. The fold-line is visible a short distance from the terminal selvage. Holes and wear in the upper section may be related to the use of pins to fasten the dress at the shoulders. 101 (warp, incomplete) x 155 cm. Museo Arqueológico José María Morante de la Universidad Nacional de San Agustín, Arequipa 002475.



Fig. 50. Dress fragment remade into a tunic. The initial warp selvedge and lower flanking zone of the dress are on the left side of the refashioned tunic. An extended pattern based on the eared serpent (fig. 18h, m, n) and intermittent tapestry squares with felines repeat in the flanking zone. Various weft-patterned figures, in no apparent order, alternate with tapestry stars in the central zone. 80 (folded) x 76 (warp, incomplete) cm. Museo Amano, Lima 3260.

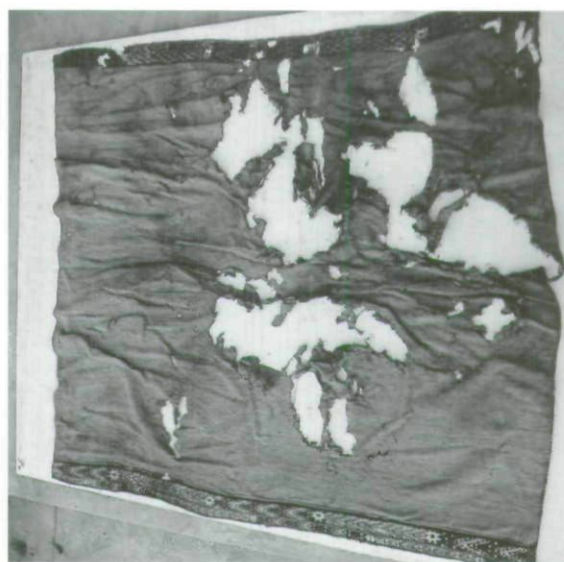


Fig. 51. Garment, possibly a dress, from the site of La Horca, near Camaná. The two compressed flanking zones show the right and the wrong side of the weave on the same face of the fabric, indicating that the garment was made to be worn folded. A seam is in the middle of the plain central zone. 140 (warp) x 141 cm. Museo de Arqueología, Universidad Católica Santa Mariá, Arequipa. La Horca, RQ-11-13, bundle 25.

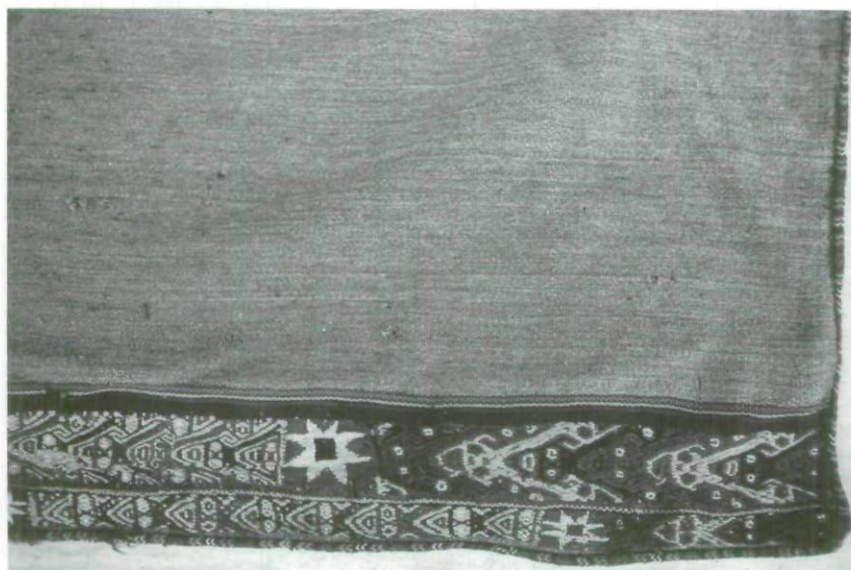


Fig. 52. Detail of the garment in figure 51, showing the flanking zone, central zone, and the plain dark border between them. Although compressed, the components of the flanking zone are comparable to those on the remade dress fragment in figure 50. Tapestry stars, instead of felines, are inset in squares on this garment. Overall dimensions, 140 (warp) x 141 cm. Museo de Arqueología, Universidad Católica Santa Mariá, Arequipa. La Horca, RQ-11-13, bundle 25.

garments with neckslits, quite possibly in antiquity (fig. 50).⁴² The original fabrics have the width of dresses as well as the size and location of zones and borders that correspond with complete dresses. Both are cut from the lower part of the garment and include the initial warp selvedge. For this reason, they do not exhibit the change from right side to wrong side of the weave which occurs nearer the terminal warp selvedge. The remade garments have vertical neckslits and horizontally oriented warps, indicating the dresses were made into men's garments. The proportions resemble Inca tunics more than Chuquibamba ponchos, which suggests that they were refashioned during the Inca empire.

The sample of complete and fragmentary dresses contains enough variety to ascertain that no one design format and no single color scheme correlates with the garment type. Within the sample of eight, the large central zones exhibit five of the eight design formats (fig. 12a, b, c, e, h). The narrower flanking zones have either a plain background (fig. 12c) or a background that is entirely figured (fig. 12d). Most dresses have a dark border with figured squares, separating the

central and flanking zones, although plain stripes, including a wide dark one, occasionally substitute.

One-, two-, four-, and five-color schemes operate in the background field surrounding the weft-patterned squares. Two complete dresses (figs. 44, 45) have five-color schemes, an arrangement that does not otherwise occur in the sample. The visual effect of the five-color scheme is very different in each of the two examples; their disposition of colors and design format also differ—one is in straight alignment, the other in alternate alignment (fig. 12a, b). Two complete dresses and a fragment (fig. 49) have the same four-color scheme seen on many ponchos (fig. 15c).

The most complex dress fragment (fig. 50) has a compact design format (fig. 12h) of stars and weft-patterned squares in the central zone. It has a broken color pattern in the stars and seven different weft-patterned figures (fig. 18a-b, d, f-i), repeated in no apparent order. It also has an extended pattern of eared snakes in the flanking zone (fig. 18m), with tapestry felines inset in squares. The color scheme of the eared snake pattern is regular. A three-color scheme repeats in a four-part sequence.

Several complete fabrics and border fragments with plain central zones could be variants of the patterned dresses just described. An example with intact selvages was excavated at La Horca, Camaná Valley (fig. 51). It has a gray central zone and is made of two loom widths. It is almost square; one of its borders has the wrong side up, indicating it was meant to be worn folded. The borders have all the standard components of the flanking zones on patterned dresses, but they are greatly compressed and simplified (fig. 52). The eared snake pattern in the compressed border is found on the dress fragment mentioned above (fig. 50), although that variant has felines, rather than tapestry stars, inset in squares. The location of the fold-line is not clearly indicated in the textile with the plain central zone (fig. 51).

Another cloth with a plain central zone was recovered from La Horca in very bad condition (fig. 53). It is made of one loom width with flanking zones composed like those of patterned dresses. The bird figures do change in up-down orientation in the two flanking zones, which could suggest it was meant to be worn folded. The face of the weave, however, does not change and the dimensions of 115 (warp) by 130 cm are small for a dress. It may be an entirely different

type of garment, or it may be a modified style of dress to be worn by a smaller or younger person. A third small fragment from La Horca consists of a corner of a garment similar to the previous one. Although these textiles were excavated, the bundles represent reinterment.⁴³

Several border fragments could also be from dresses or shawls. One is a strip of fabric with tapestry and weft-patterned figures, cut from the edge of a larger fabric (fig. 54). What remains corresponds to the composition of the flanking zone of a dress, but the adjacent dark border has tapestry figures, which are more usual on

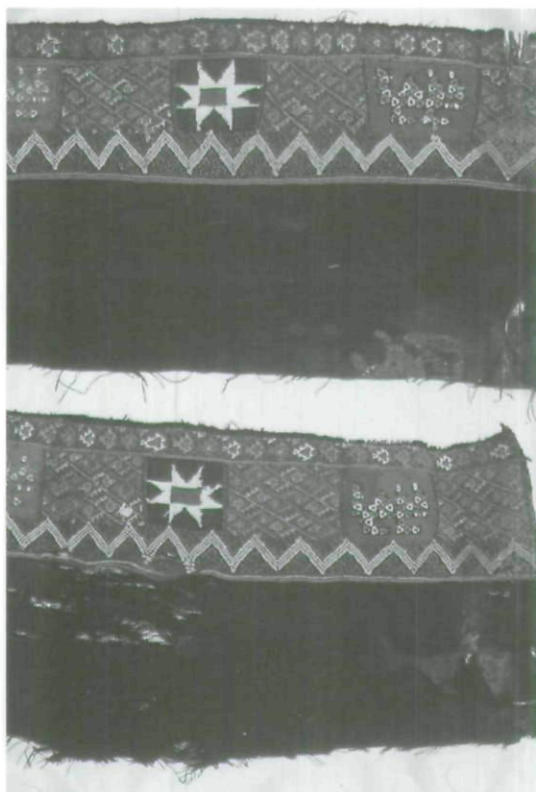


Fig. 53. Garment from the site of La Horca, near Camaná, with a plain central zone. Although the division into zones, the dark interior borders, and the composition of the flanking zones correspond to characteristics of dresses, there is no change from right to wrong side of the weave. This may be a different type of garment altogether, or it may be a smaller style of dress that was worn without a fold. 115 (warp) x 130 cm. Museo de Arqueología, Universidad Católica Santa María, Arequipa. La Horca F-16.



Fig. 54. Detail of a patterned strip of fabric, including the terminal warp selvage. Probably from a woman's garment, either a dress or shawl. The composition corresponds to the flanking zone on dresses, but the dark border with yellow tapestry figures more closely resembles borders on shawls. 12 (warp) x 89 cm. The Textile Museum 1982.50.1.

Fig. 55. Detail of two long strips of fabric from the same garment, probably a dress or shawl. The two fragments are complete in the long direction and contain both the initial and terminal warp selvages. The patterned areas correspond to the flanking zones of dresses, but the central zone is plain black. The strips may have been cut off by looters because they exhibited the right and wrong side of the weave. 30 (warp, each of two) x 146 cm. Museo Banco Central de Reserva del Perú, Lima 3546.



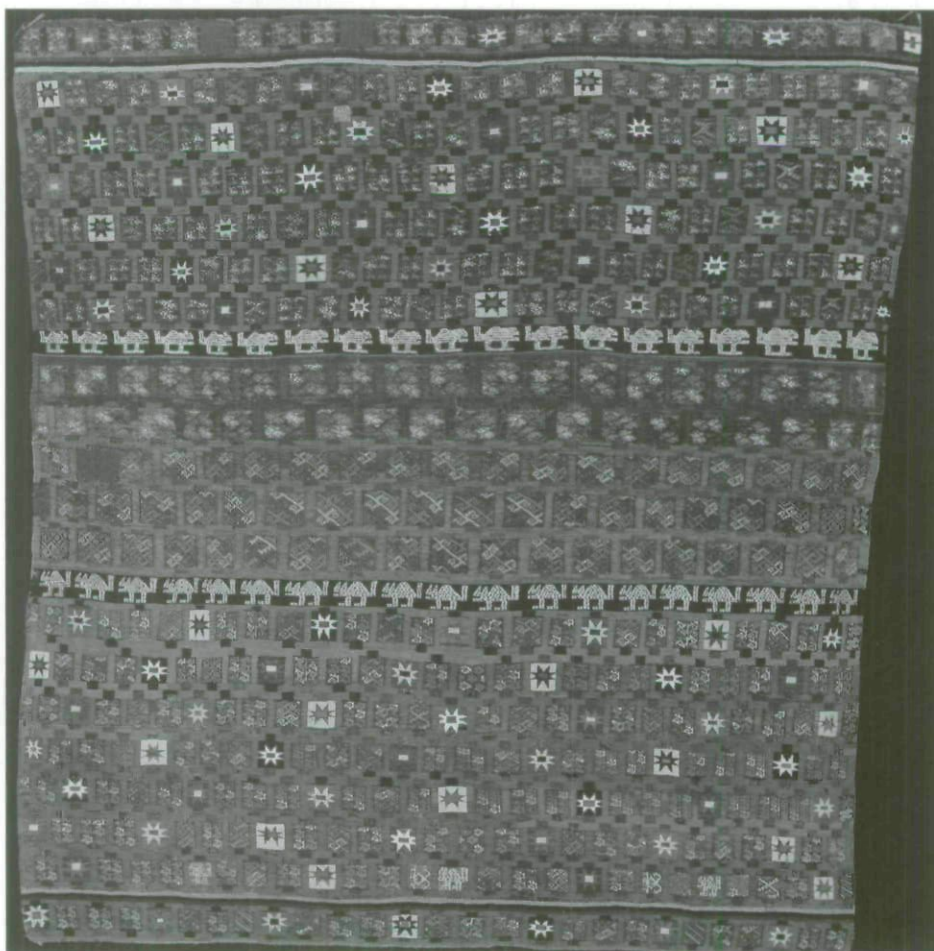
shawls. Repeated on the dark border is a tapestry figure that resembles a tadpole (fig. 19f), instead of the feline. Another pair of fragments (fig. 55) have a similar composition and they retain some of the adjacent zone, which is solid black. In its original form, one of the pair may have been flipped over, a suggestion that might also explain why the central field was sacrificed by the looters.

The La Horca garment (figs. 51, 52) and the pair of borders (fig. 55) have unpatterned central zones and therefore no clear delineation of where the fold-line falls. As the sample is very small, it is premature to accept them unreservedly as dresses.

Shawls

The second type of garment with a fold-line includes the largest and most flamboyant of Chuquibamba textiles (fig. 56). The fold-line falls just above the mid-point of the weaving and is sometimes accompanied by a woven band imitating an embellished seam. Like the dresses, these textiles also have central and flanking

Fig. 56. A complete shawl, woven in one piece. A horizontal fold-line is marked by the change from right to wrong side of the weave, just above the midpoint. Shawls are the most elaborate of Chuquibamba garments. Central and flanking zones have different patterning systems. Bold borders, separating the zones, often display a procession of yellow felines. 219 (warp) x 207.5 cm. Gift of the Class of the Museum, Courtesy of Museum of Fine Arts, Boston, 62.1180.



zones with dark borders between, but here the central zone is narrower and the flanking zones broader. The dark borders that separate the zones often carry a lively procession of yellow felines set against a dark blue background (figs. 14, 20, 42, 56). A series of plain stripes and a single row of figures near the warp selvages define an outer border.

The position of the fold-line indicates that the garment would have been almost doubled when worn and, like the dress, the warps would have been vertical (fig. 57). The photograph illustrates the folded layers and orientation in which the shawl would have been worn. The compositional features in common with the dress suggest that this is a companion piece, probably worn over the dress but around the shoulders, like a shawl. One fragment (fig. 58), which preserves the central fold-line and parts of the three zones, has many points of similarity with an intact dress, in color, lay-out, and patterned figures (fig. 48). The shawl fragment and the dress, probably worn together, are the only matching garments in the sample.

Folded shawls are woven as rectangles that are taller than they are wide, and they differ in shape and proportion from the dresses. The sizes of these shawls range between 188 and 220 cm (warp) by 152 to 207 cm,⁴⁴ a variation in dimensions that would result in shawls of different length and breadth. The sample of folded shawls consists of three complete shawls and seven fragments, each exhibiting a similar format of zones and borders.

A single example of a smaller-sized shawl has been located for this study (fig. 59). Multiple stripes repeat between bands of Chuquibamba motifs. The shawl does not exhibit the change from right to wrong side of the weave, suggesting that it was worn flat, probably with horizontal banding and with the warp oriented vertically. The striped design field, alternating plain and patterned bands, recalls the format of the smallest bags (figs. 34-36), one of which, it was noted, has Inca motifs. Both the banded design field and the smaller size may reflect Inca influence. The more common style of Inca shawl is smaller and worn unfolded (Rowe 1997, pp. 16-19, figs. 20-23). It is likely that the small shawl (fig. 59) has a late date in the Chuquibamba sequence, making it contemporaneous with Inca textiles.

An example of how the Chuquibamba folded shawl might have been worn is presented by a female figurine that accompanied the Inca



Fig. 57. A complete shawl, shown folded. The two-layer shawl, with the right side of the weave facing outward in both layers, was likely worn around the shoulders and pinned at the chest, like the shawl on the Inca figurine (fig. 47). 188 (warp, flat dimension) x 152 cm. Ohara Gallery of Art, Kobe, Japan IN 168.



Fig. 58. Detail of a shawl fragment showing parts of the central and flanking zones, with the dark border between. The colors and weft-patterned figures coincide with those on a complete dress (fig. 48), and suggest the two garments were worn together as a matching set. The length of the original shawl, projected from the fold-line to one selvage, is about 203 cm. 143 (warp) x 84 cm. Museo Nacional de Arqueología, Antropología y Historia del Perú, Lima 20340.

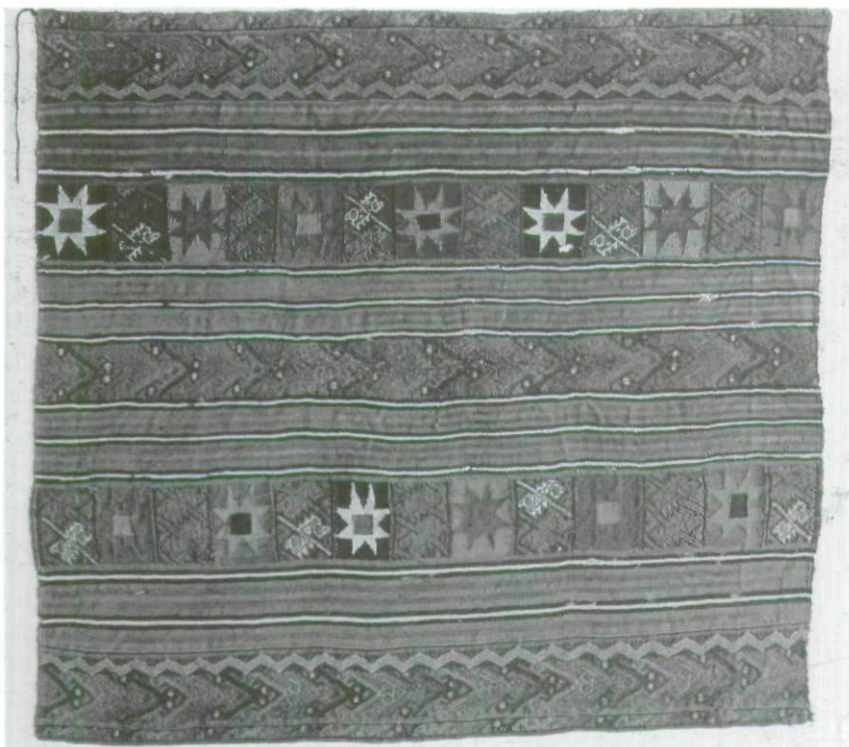


Fig. 59. Complete shawl of a small size. There is no change from right to wrong side of the weave in this shawl. It was probably worn flat with bands oriented horizontally and warps in the vertical direction. A neckslit is crudely cut into the center band of the shawl, indicating that it was remade into a man's garment. 69 (warp) x 76 cm. Museo Banco Central de Reserva del Perú, Lima 3580.

sacrifice of a young boy on the summit of Mount El Plomo (fig. 47). This Inca-style shawl is worn folded double and pinned across the chest.⁴⁵ A few full-sized Inca shawls are similar to this type of miniature shawl. The "Ice Maiden," a sacrificial burial recovered from Mt. Ampato, near Arequipa, wore a folded shawl with three color zones and it was pinned around her shoulders (Reinhard 1996, pp. 72-3).

Rowe's recent study of Inca garments illustrates shawls of different sizes and proportions, including large ones that would have been worn folded in two.⁴⁶ She suggests that the style of shawls and dresses that are folded in two could be antique ceremonial garb, rather than daily wear. As the Chuquibamba style predates and overlaps the Inca empire, the chronological implication of her suggestion has some support in the existence of shawls that are folded double.

Many Chuquibamba shawls have been cut down or reused. A neckslit is crudely cut into the center of the small Chuquibamba shawl (fig. 59),

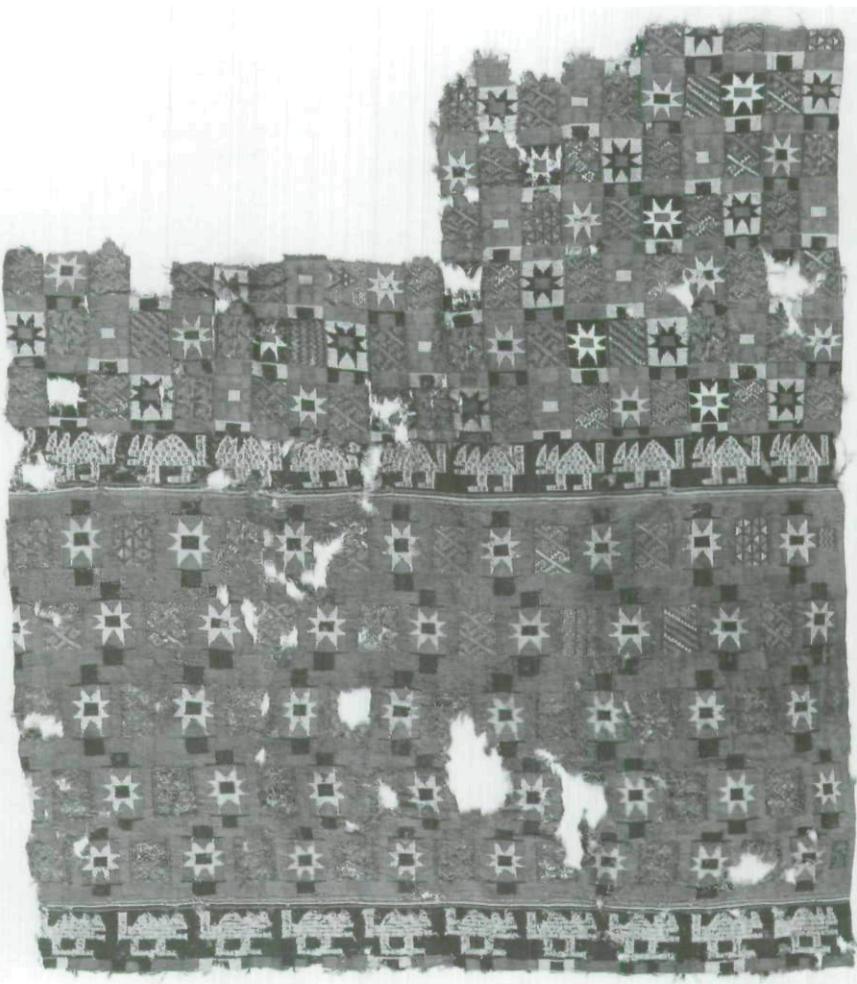


Fig. 60. Shawl fragment with a wide array of weft-patterned figures and color schemes in the central and flanking zones. A tri-axial figure, unique in the present sample, is visible in a weft-patterned square at the right, below the felines. Seven other weft-patterned figures occur as well (fig. 18a-b, d, f, h-j). 121.9 (warp) x 106.7 cm. Dallas Museum of Art, The Nora and John Wise Collection, Gift of Mr. and Mrs. Jake L. Hamon, the Eugene McDermott Family, Mr. and Mrs. Algur H. Meadows and the Meadows Foundation, and Mr. and Mrs. John D. Murchison, T41299.22.

apparently recycling a woman's covering into a small-sized garment for a man. Another fragment of a full-sized Chuquibamba shawl is cut to roughly the proportions of an Inca tunic front with a slash for a neck slit (MFAB 30.252, Stone-Miller 1992, p. 234, no. 173). The tunic front is clearly not a garment that was worn and may have been hurriedly prepared for ritual use, perhaps laying across the exterior of a mummy bundle. Some of the colors have bled and there are splashed stains from a liquid, suggesting libations could have been part of a ritual.

A complete shawl in the sample was cut apart in modern times; it is cut in two along the fold-line. One half has been turned over (MG w/n, Merrin Gallery 1985, p. 9). As it is now mounted, the right side of both halves is uppermost and the weft-patterned squares and tabs do not quite line up along the cut. Several shawl fragments have also suffered under the scissors in modern times, victims of their fold-line and a western preference for hanging Andean textiles on the wall, like paintings. The cut falls along a line in the central zone that corresponds to where the fold-line would have been located (figs. 14, 20).

The division of shawls into central and flanking zones presents two design fields, which are formatted differently. A single color background with figured squares alternately aligned (fig. 12c) is the favored design format for at least one of the zones. Olive green often occurs in the central zone (figs. 14, 42, 56, 60) and red in the flanking zones (figs. 14, 42, 56, 57). One fragment from a flanking zone of a shawl has a yellow background,⁴⁷ and another has a dark blue central zone (fig. 57).

The rectangular gridding of the background space, so common on men's ponchos, occurs on the central zone of only one shawl (fig. 57) and on the flanking zones of another fragment.⁴⁸ The rectangular grid occurs with one semi-compact arrangement of squares abutting on the sides (figs. 20, 12g). Despite a marked preference for a background of a single color, five out of eight design formats (fig. 12a, c, d, f, g) are represented in the sample. A number of shawls incorporate eight-pointed stars, in varied alternations (figs. 14, 20, 42, 56, 60), in one or both zones. Stars carry separate color schemes and sometimes occur in broken color patterns on shawls. The rarer tapestry figures, such as frogs, camelids, and felines (fig. 19c, d, b), occur mainly on shawls or dresses in the current sample.

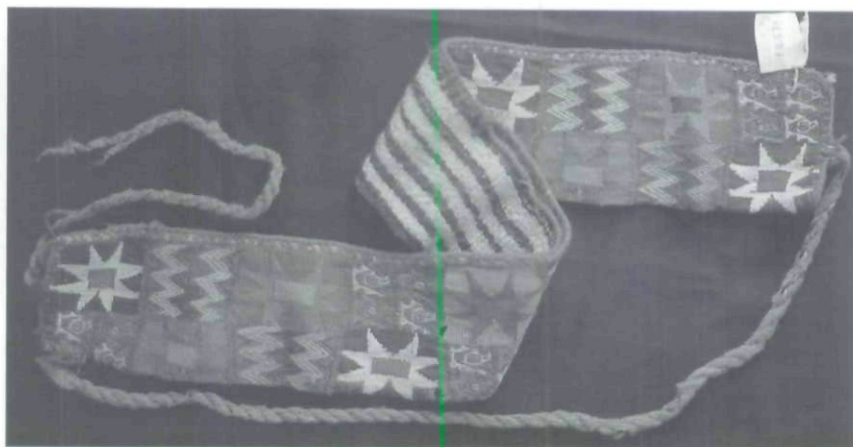
Shawls are the most complex and varied design fields in which the Chuquibamba weavers played out their pattern repetitions. There is a hierarchical division of space, first in horizontal zones and then in grids or lattices within zones. Separate design formats and color schemes, in stars or background grids, operate in central and flanking zones. The striking blue bands with yellow felines are restricted to shawls. One exuberant shawl fragment (fig. 60) exhibits eight different weft-patterned figures, including a unique figure visible near the right side in the row below the felines. The sheer extravagance of a double-layered garment of such large dimensions suggests that shawls were worn by women of considerable prestige.

Belts

In addition to shoulder fastenings, a belt is a necessary fastening for an unseamed, wrap-around dress. One type of belt in the sample is worn with the warps vertical and may belong to the class of women's garments (fig. 61). The belt is constructed from a wide short fabric that is folded longitudinally. The front layer of the constructed belt has figured squares while the back layer is often striped in natural shades of alpaca. The folded fabric is seamed together, except for an opening in the middle of the long side. The belt has the form of a long pouch with an opening in the upper edge. Ties, either re-plied cords or braids, are attached to the ends. The size of the Chuquibamba belt-bags in the sample ranges from 73 to 142 cm in length, by 9 to 13 cm in width, folded.⁴⁹

The suggestion that Chuquibamba belt-bags were worn by women has some support in the depictions of Inca women in Guaman Poma's

Fig. 61. A folded belt in the shape of a long pouch. The belt-bag was woven in one piece with the patterned section first, followed by the striped section. When it was folded and sewn together, an opening was left in the center of the long side. The vertical warp orientation suggests that it may be a woman's belt. 9 (warp, folded) x 73 cm, without ties. Museo Arqueológico José María Morante de la Universidad Nacional de San Agustín, Arequipa 000579.



illustrated letter to the Spanish king. They are depicted as wearing wide belts with four and five rows of gridded motifs, some of which appear to be patterned with tapestry motifs, like those shown on men's tunics and some women's dresses and shawls. The Chuquibamba belt-bags in the current sample have two or three rows of gridded motifs (figs. 61-63). Although the only wide Inca belts currently known are warp-faced double cloth with patterns arranged in bands, it is possible that tapestry belt-bags were worn by highland Inca noblewomen.⁵⁰ A single example of a tapestry belt-bag in the earlier highland Huari style has been noted in a museum collection (MNAHP 19247), indicating both their existence and the rarity of their preservation.

All the belt-bags in the sample have a compact design format (fig. 12h) and abut weft-patterned squares and tapestry stars on all sides. Four-color schemes (figs. 61, 62), as well as three-color schemes (fig. 63), are carried in the tapestry stars. The weft-patterned figures on a number of the belts also repeat regularly on the diagonals.



Fig. 62. Belt-bags in the Chuquibamba style alternate tapestry stars with weft-patterned figures in a compact format (fig. 12h). Belts in the current sample have two or three (shown here) rows of gridded figures. 11.5 (warp, folded) x 142 cm, without ties. Museo Banco Central de Reserva del Perú, Lima 3581.

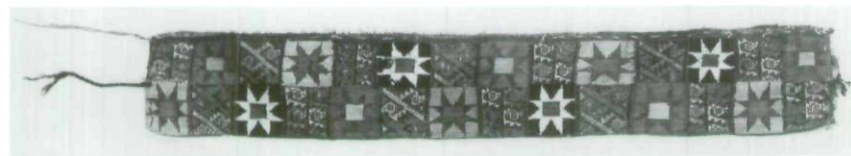


Fig. 63. A complete belt-bag with a three-color scheme in the tapestry stars. Four-color schemes are more common. 11.5 (warp, folded) x 76. Photo courtesy of Museum of Art and Archaeology, University of Missouri, Columbia 87.158.

Oppositions and Identifications

The Chuquibamba textiles located for this study represent a variety of garment types. Several fragments do not fit into the garment types described, but there is not enough information available to determine their original form.⁵¹ The suggestions as to how the garments were worn and by whom are based on features in the fabrics themselves, comparisons to garments in other styles, and the application of a borrowed hypothesis. Some garments are classified tentatively: the small bags, the flat belts, and the large garments with plain central zones. Clothing codes in the Andes are richly expressive and may have subtleties and modulations beyond the diametric oppositions enunciated in Desrosiers' hypothesis. Yet, her hypothesis appears to hold up well for the major Chuquibamba garment types identified so far. A diagrammatic summary of garments for men (fig. 64) and women (fig. 65) illustrates that they are consistently opposed in certain features. Each is shown in the orientation on the loom and, beside it, in the orientation in which it was worn. The diagrams highlight the consistency within gender categories and the oppositions between them, using arrows to show warp direction and an icon of a tabbed square to show figure orientation.

Men's and women's clothing are woven on the same loom with patterns in the same orientation. When they are worn, they become different. Men's garments are turned sideways from their loom orientation, while women's garments are worn in the same orientation in which they were woven. As noted earlier, the apertures for head and arms are vertical in men's garments and horizontal in women's garments. The oppositions between men's and women's clothes in the Chuquibamba style are maintained on planes of construction features, visible patterns, and invisible warps.

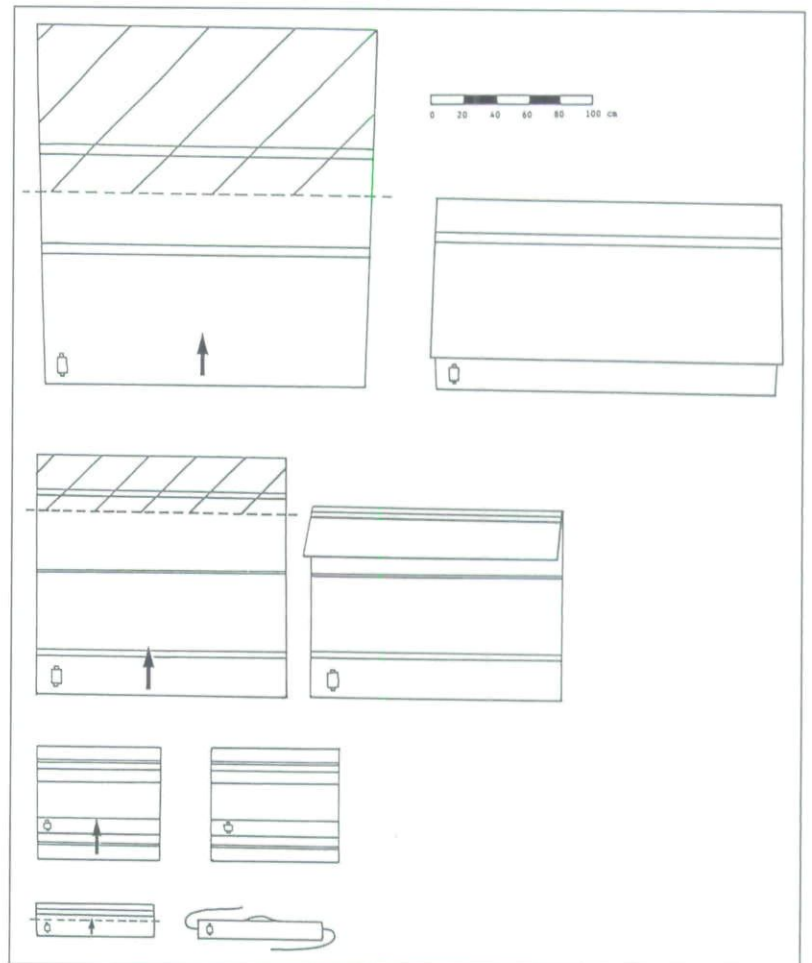
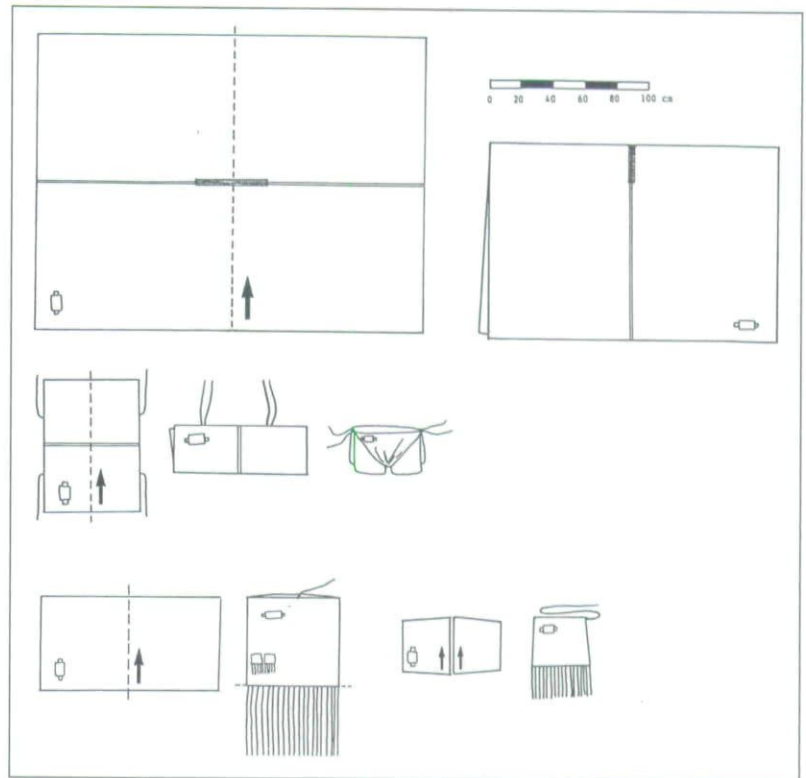
The strong oppositions along gender lines in Chuquibamba textiles suggests it would be fruitful to look for further opposed attributes, for the possibility that they are gender specific also. Men's tunics, for instance, are patterned homogeneously, except for a central narrow band that imitates an embellished seam. Women's dresses and shawls have distinct zones, separated by borders, with different design formats and color schemes in central and flanking zones. Men's garments are generally divided into two equal halves by a vertically patterned band and, in the case of the poncho, a vertical neckslit. The

Fig. 64. Diagrammatic summary of men's garments showing the fabric in the loom orientation, with warp direction indicated by an arrow. Adjacent, the garments are shown in the orientation in which they were worn, with warps horizontal. An icon of a square with tabs illustrates the visual difference between patterns, as woven and as worn. Diagrams correlate with the illustrated poncho (fig. 3), loincloth (fig. 26), and bags (figs. 30, 32). The flat belt and the smallest size of bag may, or may not, have been used by men, and so are omitted.

Fig. 65. Diagrammatic summary of garments identified as women's, showing the fabric in the loom orientation, with warp direction indicated by an arrow. Adjacent, the garments are shown in the orientation in which they were worn, also with warps vertical. A schematic inset with tabs shows that, unlike men's garments, the visible patterns were worn in the same orientation in which they were woven. The wrong side of the weave is hatched with diagonal lines, and the boundary indicates where the fabric is folded. Diagrams correlate with the illustrated shawl (fig. 56), dress (fig. 45), small shawl (fig. 59) and belt-bag (fig. 61).

shoulder fold of the poncho similarly divides it, making four vertical panels, moving around the body. Women's dresses and shawls are divided into an odd number of zones, symmetrically arranged around the central zone. The zones of women's garments present a horizontally banded surface when worn, but the symmetry of the zones becomes asymmetry when they are worn folded. Men's garments cover the body in a single layer of cloth. Women's dresses, shawls, and belts are folded and cover the body in two layers of cloth. Men's garments are put on the body from above and below. Women's garments are wrapped around the body and presumably fastened with pins.

The opposed attributes could be gender specific in the Chuquibamba style and even in other styles, particularly highland styles. Inca shawls and dresses of the folded type, for example, correspond with Chuquibamba dresses and shawls in having an odd number of zones, in presenting asymmetrical horizontal banding when worn, and in being worn layered and wrapped around the body. However, they do not neatly conform to Desrosiers' hypothesis concerning warp direction. Both warp-faced and weft-faced weaves are used for women's garments, and they are similar in banded appearance when worn.⁵² While the oppositions in Chuquibamba garments may be clues that could help in classifying garment types in other styles, they need to be cautiously applied, like Desrosiers' hypothesis, and cross-checked against other characteristics.

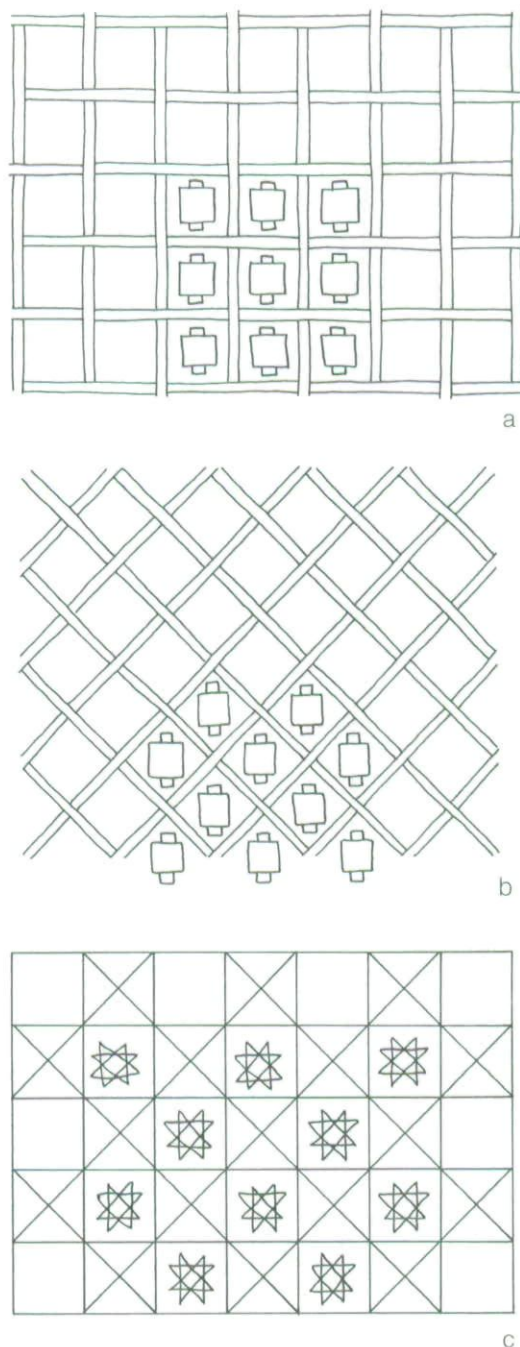


Patterns and Analogies in Chuquibamba Textiles

Textiles in the Chuquibamba style reiterate an insistent patterning in many formal features. Each textile is a reformulation of orderly spatial divisions, color alternations, and figure repetitions. But no two fabrics in the sample are the same, aside from a dress and a fragment of a shawl, which appear to be a matching set.

While it is not impossible to describe the patterning in Chuquibamba textiles in prose or mathematical language, the descriptions can be

Fig. 66. Design formats and fabric analogues. Figured squares that repeat in straight alignment correspond to the grid produced by elements in plain weave (a). Figured squares that repeat in alternate alignment correspond to the grid produced by elements in an oblique interlaced structure (b). The alternating repetition of the star motif, within a compact design format in straight alignment, corresponds to the superimposition of the grids (c). Multiple copies of the eight-pointed star are embedded (obliquely) in the matrix of the superimposed grids (c).



unwieldy and overly dense. The particularities of the patterning are much easier to apprehend visually, or when they are thought of in terms of fabric or yarn analogues. For a weaver and spinner, the exercise in analogous thinking is not taxing, and the process organizes and clarifies a welter of particular distinctions. For those not practiced in the textile arts, diagrams highlighting the particular correspondences between the patterns and the structures of cloth and cords provide a visual basis for analogies.

An analogy is "a partial similarity between like features of two things, on which a comparison may be based" (Random House 1975). Visual analogies are not true-to-life representations, but the best ones are penetrating and satisfying. Watches, for example, come in analogue and digital forms. The sweeping hands on the dial correspond with a perception about the cyclical movement of time, a correspondence that is absent in the numerals of the digital watch. The watch face with hands is not the sole analogue timekeeper, as sundials and other shadow catchers project the movement of the sun. Likewise, the diagrammatic analogies offered here are not the only analogies that could be drawn. Each diagram is a not singular interpretation of a pattern, as several structures of cloth or cord might be analogous to the same pattern. However, the multitude of correspondences between particular aspects of the patterns and the structures found in fabrics, is suggestive. There are grounds, as will be illustrated, for identifying the wider domain of fabric processes as the physical model from which the ancient artisans drew their patterns.

The planar design formats of Chuquibamba textiles are summarized in figure 12a-h. Basically, figured squares repeat in either straight or alternate alignment. The underlying lattice is rectangular for those in straight alignment and diamond-shaped for those in alternate alignment (Washburn and Crowe 1988, p. 60, fig. 2.27). These lattices have correlates in two primary structures of fabrics (fig. 66a-b). Plain weave has a square or rectangular lattice and oblique interlacing has a diamond-shaped, or rhombic, lattice. Many of the compact and semi-compact arrangements operate as if the two lattices were superimposed (fig. 66c). The totality of figured squares, weft-patterned and tapestry, repeat in straight alignment. Tapestry stars, the visually dominant squares, repeat in alternate alignment.

A few Chuquibamba textiles organize space in bands. A fabric structure analogue for the banded field might be a set of elements. A warp may be banded or striped before weaving begins or weft stripes may be produced during weaving. Another analogue for bands may be unworked elements, such as the parallel hanging cords in a quipu, or pendant fringes. Dresses and shawls combine a banded or zoned format on a large scale with latticed repetitions within zones. While the design formats are not depictions of fabric and element structures, the cloth-based analogues correspond to the formats in the way space fits together.

The weft-patterned figures repeated within squares (fig. 18a-j) have strong correlations to the structures of cloth and cord. Some bird figures are repeated in rows and columns, in straight alignment (fig. 18a, g). Like the large scale design formats that repeat in straight alignment, these micro patterns also have an analogue in the rectangular grid of plain weave (fig. 66a). Weft-patterned fish (fig. 18i) are packed into squares in alternate alignment and have an analogue in an oblique interlaced structure (fig. 66b). The weft-patterned figures make references to number, through the varying quantity of figures that are packed into squares on different textiles. The analogous fabric structures are composed of elements with a specific number of interlaced crossings.

Many weft-patterned figures are oriented on diagonals, either S- or Z-slant. Three bird figures (fig. 18b, e-f) and two serpent figures (fig. 18c, h) fit together in distinctive symmetries that appear to be thinly veiled references to how yarns hang together through twisting in the processes of plying and re-plying elements. Each of the figures is shown extended into a band pattern and then shown superimposed on an analogous cord structure (fig. 67a-f). The oblique emphasis in the patterns corresponds with the angle of the final twist, either S- or Z-slant. Some patterns have short serrated lines on the opposite diagonal, which correspond with the penultimate twisting process (fig. 67a, d). This type corresponds to cords that have been spun, plied, and re-plied, like the heading cords in Chuquibamba textiles.⁵³

The rotational symmetry between bird or snake figures (fig. 67a-b, d-e) is another point of correspondence with the analogous cords. The twirling motion of the spindle supplies rotation in a cord. The interlocking heads of figures, repeated in rotational symmetry, correspond to

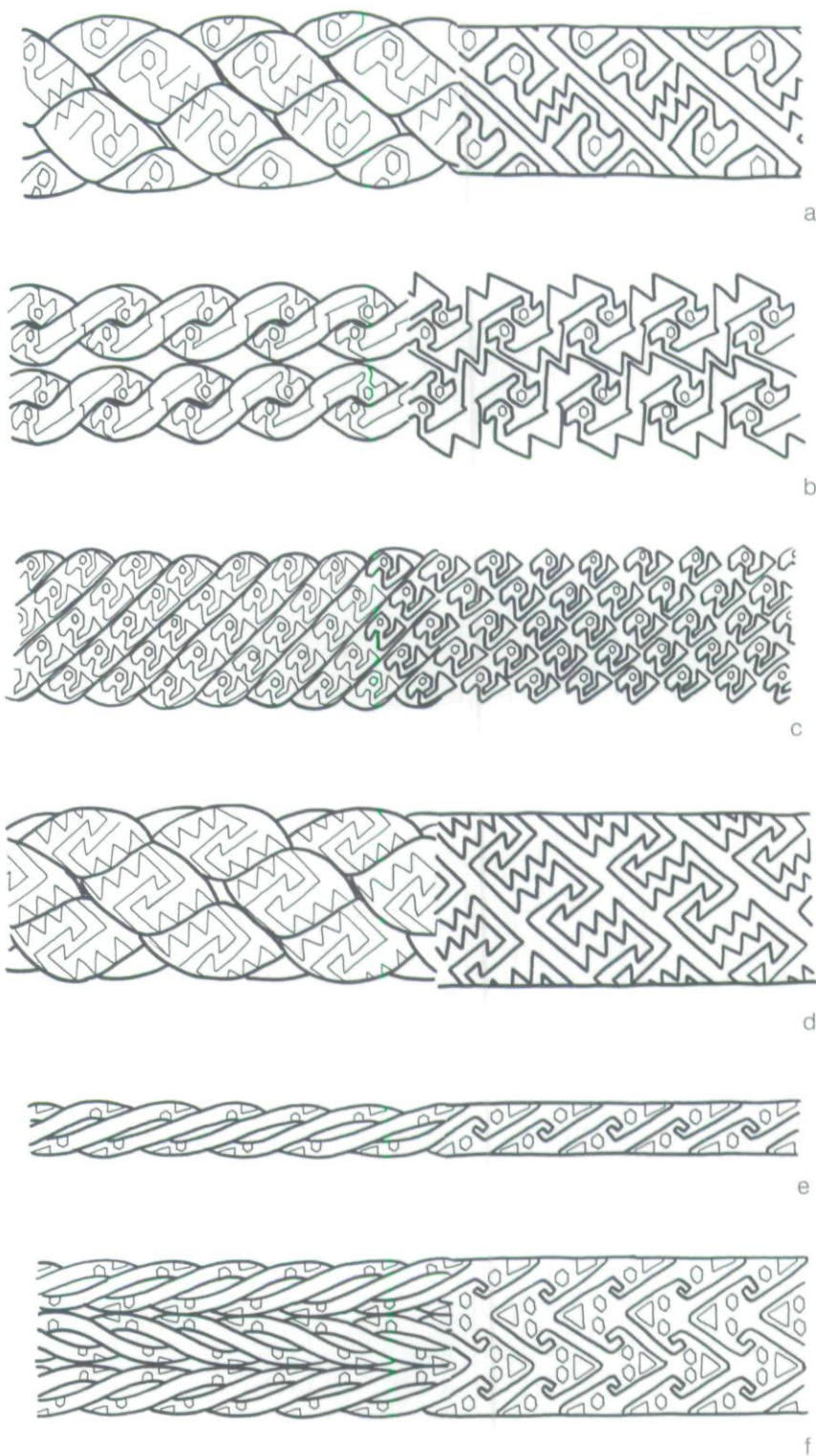


Fig. 67. Weft-patterned figure repeats and cord analogues. The tiny figures inset in squares in Chuquibamba textiles are infinite patterns (fig. 18a-j) and can be extended into band or field patterns. As band patterns, many (fig. 18b-c, e-f, h) have analogues in particular cord constructions.

- a) plied and re-plied cord (final twist, Z)
- b) plied cords (S)
- c) plied cord (S)

- d) plied and re-plied cord (final twist, Z)
- e) plied cord (S)
- f) plied cords (S and Z, in alternation)

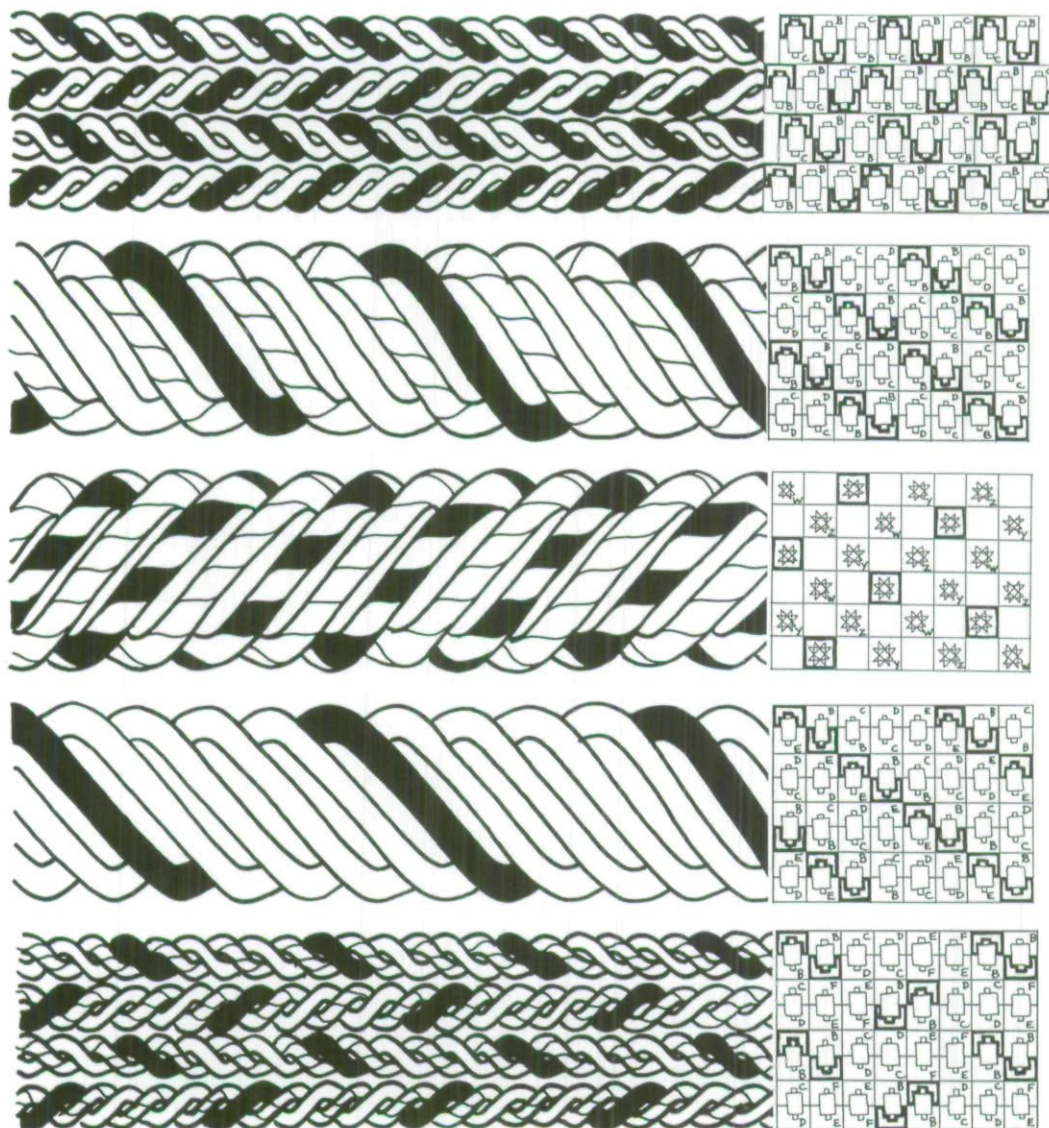
a cross-section of a plied yarn. The patterns combine two viewpoints, the exterior slant and the interior rotation, of corresponding cord structures.

Each figure has a color repetition that appears to give further specific information on the number and color of strands and the plying processes in the analogous cord. A three-color scheme operates in adjacent diagonals of small birds (figs. 67c, 31, 32). The disposition of colors correlates with plying together elements of three different colors. It is the coloration in this case that suggests an analogue of a cord, rather than an analogue of a fabric structure with a diamond-shaped lattice, although both correspond to the uncolored figures. A three-color scheme with a four-part repeat (ABAC) is used for two serpen-

tine patterns (figs. 67e-f, 50). The analogous cord has four elements, but two are the same color. The wider serpentine example is generated by reflection symmetry into a field pattern from the narrower band. This added complexity suggests another fabric analogue. One of the textiles on which this pattern occurs in a three-color repeat (ABC) has an edge binding in cross-knit loop stitch (fig. 52). The chevron arrangement of stitches is analogous to the serpentine pattern in figure 67f in this respect.

The weft-patterned figures without animal attributes share the geometry and symmetry with those already described. The serrated diagonal (fig. 18d) relates to snake and bird figures (fig. 67a, c-d), and the zigzag (fig. 18j) fits together in the same way as the serpentine figure (fig. 67f).

Fig. 68. Color patterns and cord analogues. The large-scale color alternations, carried in the tapestry background or stars of Chuquibamba textiles, are also infinite patterns. A sample of five different color schemes (fig. 15b-f) are shown together with analogues in colored cord constructions. Only the color of highest contrast is shaded in the color charts and cord analogues. The cord analogues differ in the number of cords, the angle of the twist (S or Z), the number of processes (ply and re-ply), the number of colors (three to six), and the interval comprising the repeat.



Several color patterns and their cord analogues have been described from among the weft-patterned figures. Small-scale color repetitions exist in all the weft-patterned figures, usually variants on a three-color scheme. Large-scale color patterns, which dispose colors over the entire design field, operate in the textiles as well (fig. 15a-f). These color patterns have analogues in the structures of cords. The colors in the background rectangles appear as visually continuous diagonals (fig. 68b, d) or as isolated units (fig. 68a, e). In both cases, the visual unit has an S- or Z-shape, comprised of diagonally adjacent backgrounds of rectangles in the same color. The number of colors in a scheme varies, from three to six in those included in the diagram. These attributes have correlates in the structures of particular cords and the colors of constituent elements. Cord analogues are shown adjacent to the diagrams of background color schemes (fig. 68a-b, d-e). The analogous cords in the diagrams vary in the number of elements, the twist direction (S- or Z-slant), the number of colors in constituent elements, and the number of ply/re-ply processes.

The four-color scheme of eight-pointed stars (fig. 68c) is a favored scheme in Chuquibamba textiles. Four colors, arranged on two bicolor diagonals, repeat infinitely. This scheme is probably the most widespread color pattern in Peruvian art. More than a millennium before Chuquibamba textiles were made, the same color scheme was favored among the embroidered mantles from the south coast site of Paracas Necropolis.⁵⁴

The infinite patterning in Chuquibamba textiles is both regular and multitiered. It occurs on the minute scale of the weft-patterned figures enclosed in squares (fig. 67) and on the grand scale of the entire textile (figs. 66, 68). The infinite patterns replicate the spatial, numerical, and symmetrical attributes that reside in the structures of cloth and elements. The consistency of correspondences between the patterns and the structures of cloth and cord suggests that fabric-making technology, and no other technology, shaped the thinking that produced the patterns. While the references to fabric structures in the patterns may be substratum, the essential mathematical experience they reflect is practiced daily by Andean weavers. Spinners and weavers methodically create space and number in the yarns they spin and ply and in the cloth they weave. They explore symmetry in the intricate

sequences of picking up warps to produce their patterned weaves (Franquemont, Franquemont, and Isbell 1994). The processes of making cloth are no less complex and varied than the patterning systems described here. Like the same note sounded octaves apart, there is a resonating relationship between the structuring of cloth on the micro level and the patterned repetitions of figures, colors, and spatial divisions on a Chuquibamba garment.

Unfolding Chuquibamba Textiles

Rarely is it possible to describe highland textile styles fully because of poor preservation at higher elevations in Peru. Chuquibamba textiles, originating in the valleys below the high plateau and above the coastal desert, are preserved in sufficient numbers for us to appreciate the range of highland garments. The variety, quality, and sheer size of textiles convey the splendor of this local highland style.

The fortunate coincidence of woven-in fold-lines that identify women's garments allows a classification of clothing by gender. The gender oppositions in Chuquibamba garments concretely illustrate the concept of dualism, a pervasive mode of Andean organization based on the pairing of opposites. Andean dualism is reflected in varied cultural domains, from social organization to the up-down separation of warp threads during weaving.

Dualism is perhaps the strongest, but not the only, relation that informs Andean cultural practices. Successive doubling of pairs produces four- and eight-part relations, which are also insistent organizational modes in Andean cultures. The eight-pointed star, for instance, is a recurrent motif on Chuquibamba textiles that couples an eight-part spatial division with four-fold rotation.

The pattern systems in Chuquibamba textiles contain more complex relations than binary alternation and its derivatives. Color schemes, for example, range from two to six colors, although the four-color scheme is the most common. Color schemes multiply in variations when they are overlaid on different design formats. No doubt, Chuquibamba textiles can be further unfolded to reveal other levels of patterning. The next challenge lies in endeavoring to recognize these important schemes in other aspects of the Chuquibamba archaeological record.

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About the Author

Mary Frame, Research Associate of the Institute of Andean Studies, Berkeley, is an independent scholar who resides in Vancouver, British Columbia, Canada. She has written articles for *The Textile Museum* publications, as well as catalogues for exhibitions at the Metropolitan Museum of Art in New York and for the University of British Columbia Museum of Anthropology in Vancouver. She leads workshops for museums and interested groups on the structures of Peruvian textiles and analogous systems of patterning, some of which are treated in this article.

Abbreviations of Museums and Collections

AIC	Art Institute of Chicago
AMNH	American Museum of Natural History, New York
BM York	Brooklyn Museum, Brooklyn, New York
CAS	California Academy of Science, San Francisco
CH	Cooper-Hewitt National Design Museum, New York
CMA	Cleveland Museum of Art
DMA	Dallas Museum of Art
HD	Huize Dumortier Collection, Antwerp, Belgium
IMA	Idemitsu Museum of Arts, Tokyo
KMKG	Koninklijke Musea voor Kunst und Geschiedenis, Brussels
MA	Museo Amano, Lima
MAA	Museum of Art and Archaeology, University of Missouri, Columbia
MAUCSM	Museo de Arqueología, Universidad Católica Santa María, Arequipa
MBCdR	Museo Banco Central de Reserva del Perú, Lima
MdAdL	Museo de Arte de Lima
MdIN	Museo de la Nación, Lima
MFAB	Museum of Fine Arts, Boston
MG	Merrin Gallery, New York
MMA	The Metropolitan Museum of Art, New York
MMoA	Mint Museum of Art, Charlotte, North Carolina
MNAAHP	Museo Nacional de Arqueología, Antropología y Historia del Perú, Lima
MNHNSC	Museo Nacional de Historia Natural de Santiago de Chile
MRI	Museo Regional de Ica, Peru
MUNSA	Museo Arqueológico José María Morante de la Universidad Nacional de San Agustín, Arequipa
NMC	Nationalmuseet, Copenhagen
OG	Ohara Gallery, Kobe
PC	Private Collection
PHMA	Phoebe Hearst Museum of Anthropology, Berkeley
PMH	Peabody Museum, Harvard University, Cambridge
TM	The Textile Museum, Washington, D.C.
TMMA	Toyama Memorial Museum of Art, Kawashima
w/n	without number

Notes

1. Kroeber 1944, pl. 8b, pp. 19-22, 145-46. The star motif also occurs on black-on-red ceramics that comprise "local ware," although Kroeber illustrates the eight-pointed star on earlier Huari-influenced bowls (pls. 5h, 4j) and on an Inca-influenced aryballos (pl. 8a) from the area (personal communication, Dorothy Menzel to Ann Rowe, December 1998). He describes the local ware as "a smooth dark red, painted in black, usually in thin linear designs; occasionally in white." It is the local ware Kroeber is discussing under the heading "Chuquibamba: An Undescribed Culture," where the star is described as a "local design." Archaeologists continue to refer to the black-on-red ware of this region as the Chuquibamba style, which chronologically lies between the Huari-influenced and Inca-influenced styles of the area.

2. Rowe (1992, pp. 31-37) includes weft-patterned textiles (figs. 37-40) and warp-patterned textiles (fig. 36) in her discussion of the local style. Although both types of textiles have the eight-pointed star motif, the warp-patterned textiles now appear to belong to another local style (Dransart ms.).

3. Chuquibamba textiles are often misattributed as "Ica-Chincha" or "provincial Inca" in museum records, likely drawing on Lumbreras 1974, pp. 195-97 for the former and a misreading of Rowe 1992, pp. 31-40 for the latter. While there are clear examples of "provincial Inca" textiles with Chuquibamba motifs, these are woven in tapestry and occur on Inca garment types (Rowe 1992, pp. 36-39, figs. 41-44).

4. The eight-pointed star motif is widely used in the south of Peru, occurring from Nasca onward (Neira Avendaño 1990, p. 139; Linares Malaga 1979, pp. 16-23; Frame 1990, cover). It is not confined to the Chuquibamba or the Chuquibamba-Inca style, although it is common to both.

5. Lumbreras 1974, pp. 212-13; Manrique Valdivia and Cornejo Zegarra 1990, pp. 21-24; García Márquez and Bustamente Montoro 1990, pp. 25-40; Chávez Chávez and Salas Hinojoza 1990, pp. 15-20; Neira Avendaño 1990, pp. 125-39; Malpass and de la Vera Cruz 1990, pp. 41-58; Cardona Rosas ms., pp. 76-144.

6. Ocoña (MUNSA w/n, illustrated in Kroeber 1944, pl. 8b); Huancarqui, Majes (MUNSA 002475); La Horca, Camaná (illustrated in Cornejo Zegarra ms., pp. 69, 72, 75, 78, 80, 85); Pacaisito, Camaná (MUNSA AR 3-IV-2-1, illustrated in Linares Malaga 1987-90, p. 246); Guardiola, coast south of Mollendo (MUNSA 000579, illustrated in Linares Malaga 1979, p. 23, fig. 6); Santa Isabel de Siguan

(PMH 46-81-30/5512, 5532, 5534, 5543, cited in Rowe 1992, p. 47, note 78). The museum record for the latter textiles says Santa Isabel de Sigüas, Majes Valley; however, Santa Isabel de Sigüas is in the Sigüas Valley. The list of Chuquibamba textiles with provenience is short because most were not excavated by archaeologists.

7. Lampilla, Yauca (PHMA 4-8219a, b, cited in Rowe 1992, p. 47, note 78); Tanaca, Yauca (PHMA 4-8348a, b, cited in Rowe 1992, p. 47, note 78); Tambo Viejo, Acari (MAUCSM PV-74-1-143-3); Fundo Pacheco, Cahuachi, Nazca (PMH 46-77-30/7715, 7716, cited in Rowe 1992, p. 48, note 89); Ullujaya, Ica (TM 1961.37.9, illustrated in Rowe 1992, p. 36, fig. 40). Rowe (1992, p. 35) suggests the Chuquibamba textiles from Nasca and Ica are trade pieces. T. Rose Holdcroft provided a slide of the fragment from Tambo Viejo, and Dr. Augusto Belan Franco provided the opportunity to study it.

8. Lumbreras 1974, pp. 212-13; Kroeber 1944, pp. 19-22, pls. 3-6, 8a-f; Neira Avendaño 1990, pp. 125-39; Cardona Rosas ms., pp. 76-144. The summary description of Chuquibamba pottery is derived from these sources.

9. For technical descriptions on the selvages of Huari and Inca tunics, see Bird and Skinner 1974, pp. 7-9 and Rowe 1978, pp. 8-10. Bird and Skinner (fig. 5, p. 10) also diagram two possible versions of a loom for weaving Huari tapestry.

10. Vreeland (1979, pp. 194-96), reviews the technical, archaeological and ethnohistorical evidence for the pre-hispanic use of the vertical loom, including a ceramic representation of an upright loom with women weaving from both sides of the loom (see also VanStan 1979, pp. 234, figs. 1, 2).

11. Niles suggests that either a vertical loom or a folding loom (1992, p. 55, figs. V.4, V.5) was used to weave a Chuquibamba textile she discusses (although she does not identify the textile as Chuquibamba). She publishes the photograph of a vertical loom, taken in Cotahuasi on Hiram Bingham's 1911 expedition, but mistakenly locates it "near Machu Picchu" (p. 63, caption to fig. V.17). The photograph was first published in Bingham 1922, p. 60.

12. See Washburn and Crowe 1988 for a description of lattices (p. 60, fig. 2.27) and symmetrical motions (pp. 43-61).

13. For finite patterns, see Washburn and Crowe 1988, p. 57.

14. The garments with two complete dimensions in the sample include MdAdL 2.1-84-IV (details, figs. 7, 23); TM 91.75 (figs. 3, 8; Rowe 1992, p. 33, fig.

37); AMNH 41.2/850 (fig. 16, detail); PMH 46-77-30/7715; PMH 46-77-30/7716; HD w/n (Verhecken-Lammens 1994, pp. 146-47, details); AIC 1955.1766 (figs. 21, 22; Ubbelohde-Doering 1952, pl. 47, detail); AIC 1991.821; KMKG A.A.M. 87.1; TMMa w/n (figs. 24, 25; Toyama Memorial Museum of Art, 1992, p. 97, fig. 94); MdIN C.MN-114 4014 (fig. 17); MMoA w/n; Cooper Hewitt 1962-27-9; Luis Echeopar Garcia, Lima; PC, New York, 676; Conlon Siegal, Santa Fe w/n (Hali 1998, p. 57); David Lantz, New York. Garments with one complete dimension include CAS 389-2578 (Rowe 1992, p. 34, fig. 38); CMA 40.497; David Bernstein, New York, w/n. Numerous fragments exist in other collections, and many are incorporated in this study, particularly if they have provenience.

15. I thank Ann Rowe for comments that led me to reconsider the nature of this type of garment. Although the poncho has often been regarded as a post-conquest introduction, based on remarks by Montell (1929: 240-41), the notion of a garment with neckslit and no side seams is clearly indigenous.

16. A single poncho in the sample is considerably larger, having dimensions of 200.6 (warp) by 256.5 cm (David Lantz w/n). The weft-patterned squares are also exceptionally large and a wider than usual variety of figures is used.

17. Verhecken-Lammens (1994, pp. 146-47) was the first to publish details of the neckslit construction.

18. PMH 46-77-30/7716 and AIC 1991.821 have similar reinforcements of double running stitch across the base of the neck opening. BM 32.1547 has a reinforcement of figure-eight stitching that extends downward from the neck opening. BM 32.1547, an almost complete poncho, is a hybrid stylistically and technically. It has only four squares with complementary weft-patterning with substitution of the type typical of Chuquibamba textiles. The other squares, more than 270, are complementary-weft patterned (without substitution) and have a double-headed serpent figure not found in the Chuquibamba repertoire of figures.

19. MNAAHP 24859 has an embellished seam; DMA T41299.23 has an overcast seam, according to catalogue notes provided by Carol Robbins.

20. Clark et al. ms., pp. 17-18, fig. 19a, b, d. Two of three tunics from fardo 10188, Chiribaya Baja, have these finishes which are clearly illustrated in drawings. The Chiribaya style in textiles differs markedly from the Chuquibamba style (the tunics are trapezoidal and warp-faced), but the regions are geographically close.

21. KMKG A.A.M. 87.1, a complete opened-out garment, has dimensions of 56.5 (warp) by 95 cm.

The analysis and description were provided by Chris Verhecken-Lammens. Another small garment without side seams, Cooper-Hewitt 1962.27.9, has dimensions of 90 (warp) by 124 cm, but it has a different design format (fig. 12a).

22. One example of a fragmentary large poncho with a complete warp dimension of 177 cm (the width as worn), PMH 46-77-30/7716, also has this design format.

23. PMH 46-77-30/7716.

24. AIC 1955.1766 (figs. 21, 22); MMoA w/n; Conlon Siegal w/n (Hali 1998, p. 57); CAS 389-2578 (Rowe 1992, p. 34, fig. 38); CMA 40.497.

25. Desrosiers (1992) discusses several types of oppositions, including this one. She notes some exceptions to the general patterns, as do the contributors to the debate that follows the article. LeFebvre (1992, pp. 36-38), in the debate, suggests it is the orientation of the visible patterns, and not the warps, that is consistent when one includes both warp-patterned and weft-patterned textiles. In the weft-patterned Chuquibamba textiles discussed here, the orientations of patterns and warps change in tandem, and so fit both Desrosiers' hypothesis and LeFebvre's counter-hypothesis.

26. The complete loincloths in the sample include MBCdR 3543 (fig. 26); MBCdR 3545 (fig. 13); MBCdR 3592 (fig. 28); MMA 1983.497.2 (fig. 27); IMA s/n (Idemitsu Museum of Arts 1997, fig. 53). The loincloths with one complete dimension include HD 66 and PC, Lima, w/n.

27. Clark (1993, pp. 596-612, fig. 5.49 and 1990, p. 137, fig. 4, lower right) diagrams the Estuquina loincloth, showing flaps of fabric lying on the inner thighs. Other than this feature, the Estuquina loincloth is quite different—in shape (trapezoidal) and in weave (warp-faced)—and belongs to a different style. Rectangular loincloths with ties on the longer sides, from Arica (Ulloa Torres and Maldonado R. 1985, p. 85, no. 010), may have been worn in a manner similar to that suggested for the Chuquibamba loincloths.

28. The sample of trapezoidal bags includes MBCdR 3547 (fig. 31), MBCdR 3582 (fig. 32); MBCdR 3584 (fig. 33); PMH 46-81-30/5534; HD 51; w/n (illustrated in Haifa Museum of Music and Ethnology 1988). Only two bags of the largest size are included in the sample: MBCdR 3544 (fig. 29; Azoy 1985, p. 29, bottom) and MBCdR 3591 (fig. 30).

29. Analysis and photographs of HD 51, a small, fine bag with a white background, were provided by Chris Verhecken-Lammens. The join is clearly visible on the bag, which is fragmentary and opened out flat.

30. The small pattern-striped bags with Chuquibamba motifs in the sample are MBCdR 3576 (fig. 34); MBCdR 3574 (fig. 35; Bakula 1992, pl. 11); MBCdR 3533 (fig. 36); MBCdR 3554; MBCdR 3555; MBCdR 3556; MBCdR 3571; MBCdR 3573; MBCdR 3575. The bags average about 20 by 20 cm, when sewn. The bag with Inca motifs (MBCdR 3577) measures 16 by 13.5 (warp) cm and is the smallest. This group of bags, and other Chuquibamba textiles in the same museum collection, are part of one accession. The textiles were confiscated by the U.S. customs officials from a dealer's shipment and returned to Peru (Azoy 1985).

31. The patterns and weave are comparable to those on bags illustrated in Rowe 1997, p. 7, fig. 4 and p. 8, fig. 5.

32. For illustrations of women carrying bags in this manner, see Guaman Poma 1993 (1615), pp. 136, 138, 173, 295, and 331. For illustrations of men with bags looped around the wrist, see pp. 86, 159, 318, and 346.

33. Linares Malaga (1987-90, vol. 2, p. 246, illustration) gives no information beyond the site name. Cornejo Zegarra (ms., p. 71) says there are no associations for this bag.

34. The excavation at La Horca revealed a variety of reinterment practices, including bundles with incomplete skeletal material from several individuals and wrapped packets of bones (Belan Franco, Cornejo Zegarra, and Andrade 1986, p. 459). The bag in figure 38 is recorded as coming from bundle 26, quadrants RQ 11-13 (Cornejo Zegarra ms., pp. 67-69), but there is no description of bundles and their other contents. The second bag, 20 by 14.5 cm (warp), came from bundle 5, quadrants RQ 11-13 (ibid, pp. 73-75). The third, fragmentary bag with tapestry figures, 9 by 40 cm, also came from bundle 5 (ibid, pp. 81-84).

35. The sample of flat belts include MBCdR 3569 (fig. 39); MNAAHP 07323 (fig. 40); MBCdR 3452, an unfinished belt with horizontal striping; MUNSA w/n (fig. 41).

36. The sample of complete dresses include CMA 40.498 (figs. 43, 44); MMA 1995.109 (fig. 45); MNAAHP T22700 (fig. 48, detail); Dr. Sol Klotz, Florida; Rosario Uranga de Romero, Lima. Dress fragments with one complete dimension include MUNSA 002475 (fig. 49, detail); CAS 389-2364 (Rowe 1992, p. 35, fig. 39; remade); MA 3260 (fig. 50; Museo Amano 1979, pl. 274; Bakula 1992, fig. 120, top center; remade).

37. Women from the province of Condesuyu are depicted as wearing a dress that is shorter than those worn by Inca women in the illustrated

chronicle of Guaman Poma (1993 [1615] pp. 179, 326). They also wear a shawl that is longer than Inca shawls. The length of actual dresses and shawls in the Chuquibamba style corresponds with Guaman Poma's illustrations, as compared to the length of Inca women's garments.

38. The figurine has been redressed in the garments, which are stored separately at the museum.

39. Rowe 1997, pp. 12-13, figs. 10-12. Rowe suggests the fold in Inca square dresses was taken at the waist, like some present day Ecuadorian dresses of a conservative style (p. 14 and note 46, pp. 40-41). However, it is equally probable that the fold was at the bodice, like Chuquibamba dresses and other present-day dresses from southern highland regions noted in the text. A tapestry wrap-around dress, thought to be Cuzco style from the early Colonial period (Phipps 1996, pp. 187-89, fig. 54), has a woven-in indication that it was worn with the fold at the bodice. The figures in the patterned bands near the long edges have their heads oriented toward the center of the cloth, indicating that one band was meant to be folded down to match the orientation of figures in the band at the hem.

40. MNAAHP 20340.

41. The dress was donated to the museum and there are no associations (Cornejo Zegarra ms., p. 71).

42. The other refashioned dress fragment is illustrated in Rowe 1992, p. 35, fig. 39.

43. The garment illustrated in figures 51 and 52 is from bundle 25, quadrants RQ 11-13 (Cornejo Zegarra ms., pp. 78-80). The garment in figure 53 is from quadrant F-16, a disturbed area (*ibid.*, pp. 76-77). The corner fragment, 20 by 14.5 cm, is also from quadrant F-16 (*ibid.*, pp. 70-72). See note 34 above for general comments on the site of La Horca.

44. Complete shawls in the sample include MFAB 62.1180 (fig. 56; Stone-Miller 1992, p. 171, pl. 62); OG IN 168 (fig. 57; Misugi 1985, p. 97, fig. 168); MG w/n (Merrin Gallery 1985, p. 9, now cut and reassembled with one half turned over). Fragments of shawls include MNAAHP 20340 (fig. 58); PC, New York (fig. 20; Reid 1990, p. 18, pl. 3); MRI DB 01 (fig. 14); DMA T41299.22 (fig. 60); NMC w/n (fig. 42); MFAB 30.252 (Stone-Miller 1992, p. 235, no. 173); Dr. Wagner, formerly of Nasca (Kosok 1965, pp. 61-62 and Zuidema 1977, pp. 225-26, fig. 15.3).

45. Illustrations of Inca figurines or miniature folded shawls include Lothrop 1964, p. 218 (color photograph of the figurine in fig. 47); Reinhard 1992, pp. 88-89; Dransart 1995, p. 6; Reinhard 1996, pp. 73, 76; Rowe 1997, pp. 19-20, figs. 24-26;

Sotheby's 1994, lot 35. For a fuller set of references on both flat and folded types of Inca miniature shawls, see Rowe 1997.

46. Large Inca shawls, worn folded in half, are described and illustrated in Rowe 1997, pp. 18-22, figs. 27, 29.

47. MFAB 30.252 is a fragment cut from the flanking zone of a shawl with a plain yellow background (Stone-Miller 1992, p. 234, no. 173).

48. Kosok (1965, pp. 61-62) and Zuidema (1977, pp. 225-26, fig. 15.3) interpret the shawl, which is missing the central zone and part of a flanking zone, as a calendar.

49. The complete belt-bags in the sample include MUNSA 000579 (fig. 61; Linares Malaga 1979, p. 23, fig. 6); MBCdR 3581 (fig. 62); MAA 87.158 (fig. 63); PC Arequipa; w/n, David Bernstein; w/n (Hali 1995, p. 100).

50. For Inca belts in warp-faced double cloth, see Rowe 1997, pp. 23, 25, and fig. 36. Guaman Poma (1993 [1615]) depicts women in what appear to be tapestry garments (pp. 126, 134, and 136 for shawls and dresses; pp. 120, 122, 124, and 130 for belts), yet Rowe located only a single shawl in tapestry for her study of Inca garments (1997, pp. 18-19 and fig. 23). The foregoing suggests that Inca tapestry garments for women existed in the highlands, but that they were rarely preserved on the coast.

51. A different form of interior border occurs near a selvedge on two fragments (Anton 1987, p. 35, p. 25; MA 1277). A fragmentary length of fabric with several large-scale squares with tabs, woven in tapestry, has many small weft-patterned squares with tabs within each of the larger squares (MUNSA w/n). The original form could not be determined, but it was clearly different in design format from other Chuquibamba garments. A number of fragments in what may be a hybrid of the Chuquibamba style include Lumbreras 1974, p. 197, fig. 200, top; BM 32.1457; BM 29.1312.3; MMA 32.32.22; and Abegg Stiftung, Switzerland 468, all mentioned in Rowe 1992, p. 48, note 79.

52. Rowe (1997) discusses and illustrates folded dresses (pp. 14-17, figs. 13-18) and shawls (pp. 18-22, figs. 24-31).

53. Similar patterns occur in other styles, for example, Chancay. A diagram of a cord analogue for a Chancay example is published in Frame 1994, p. 346, fig. 1.

54. The four-color scheme in the Paracas Necropolis embroideries is discussed and charted in Frame 1991, pp. 141-44, fig. 4.28b.

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